



09-965738substitute.ST25.txt  
SEQUENCE LISTING

<110> O'Brien, Timothy J.  
Beard, John B.  
Underwood, Lowell J.

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and Therapeutic Interventions

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<151> 2001-04-17

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<151> 2001-06-19

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Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro  
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Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp  
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Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr  
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Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser  
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Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala  
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Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu  
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Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu  
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Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro  
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Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly  
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Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
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Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
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Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  
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Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro  
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Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly  
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Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro  
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Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
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Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu  
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Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr  
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His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu  
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Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr  
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 Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
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 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
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Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
 65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro  
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Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  
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Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn  
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Met His His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
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Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu  
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Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala  
 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser  
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Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr  
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Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
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35 40 45

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50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
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Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
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Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
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Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala  
 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
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His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr  
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 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro  
 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Phe Gly  
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Thr Pro Ala Ser Leu His Gly His Thr Ala Pro Gly Pro Val Leu Val  
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Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
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Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
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Tyr Ser Gly Cys Arg Leu Thr Leu Arg Pro Glu Lys Arg Gly Ala  
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Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Asp Arg Gly Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser  
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Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe  
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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu  
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Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro  
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Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala  
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser  
260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 29  
 <211> 281  
 <212> PRT  
 <213> Homo sapiens

<400> 29

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser  
 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
 20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro  
 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly  
 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  
 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu  
 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala  
 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
 210 215 220



Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
 225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr  
 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu  
 260 265 270

Pro Ser Pro Thr Thr Ala Gly Pro Leu  
 275 280

<210> 30  
 <211> 217  
 <212> PRT  
 <213> Homo sapiens

<400> 30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser  
 1 5 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu  
 20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro  
 35 40 45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro  
 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly  
 100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala  
 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
 210 215

<210> 31  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens

<400> 31

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser  
 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys  
 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  
 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly  
 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val  
 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala  
 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
 210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu  
 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr  
 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser  
 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe  
 275 280 285

<210> 32  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens

<400> 32

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser  
 1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys  
 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  
 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly  
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 33  
<211> 284  
<212> PRT  
<213> Homo sapiens

<400> 33

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
 35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu  
 50 55 60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  
 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  
 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala  
 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly  
 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
 210 215 220

Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu  
 225 230 235 240

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr  
 245 250 255

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser  
 260 265 270

Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile  
 275 280

<210> 34  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens

<400> 34

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser  
 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu  
 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
 35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp  
 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  
 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn  
 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu  
 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser  
 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 35  
<211> 274  
<212> PRT  
<213> Homo sapiens

<400> 35

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser  
1 5 10 15

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro  
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu  
50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr  
85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg  
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val  
115 120 125

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn  
130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile  
245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser  
260 265 270

Leu Pro

<210> 36  
<211> 386  
<212> PRT  
<213> Homo sapiens

<400> 36

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser  
1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro  
85 90 95



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Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  
100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala  
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  
180 185 190

Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu  
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro  
290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu  
305 310 315 320

Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys  
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val  
340 345 350

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn  
355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr  
370 375 380

Glu Leu  
385

<210> 37  
<211> 438  
<212> PRT  
<213> Homo sapiens

<400> 37

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly  
100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala  
                   180                                  185                                  190  
 Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly  
                   195                                  200                                  205  
 Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
                   210                                  215                                  220  
 Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu  
                   225                                  230                                  235                                  240  
 Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile  
                                   245                                  250                                  255  
 Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser  
                                   260                                  265                                  270  
 Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu  
                   275                                  280                                  285  
 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr  
                   290                                  295                                  300  
 Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu  
                   305                                  310                                  315                                  320  
 Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
                                   325                                  330                                  335  
 Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val  
                                   340                                  345                                  350  
 Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp  
                   355                                  360                                  365  
 Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile  
                   370                                  375                                  380  
 Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly  
                   385                                  390                                  395                                  400  
 Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser  
                                   405                                  410                                  415  
 Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro

420

Ile Val Pro Gly Pro Leu  
435

<210> 38  
<211> 420  
<212> PRT  
<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys  
1 5 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn  
20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser  
35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg  
50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr  
65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr  
85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro  
100 105 110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met  
115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln  
130 135 140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr  
145 150 155 160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala  
165 170 175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro  
180 185 190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn  
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195

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr  
210 215 220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro  
225 230 235 240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val  
245 250 255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn  
260 265 270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly  
275 280 285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg  
290 295 300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
305 310 315 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp  
325 330 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg  
340 345 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu  
355 360 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe  
370 375 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr  
385 390 395 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser  
405 410 415

Ala Ala Ser Pro  
420

<210> 39  
<211> 439  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 39

Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu  
20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  
100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala  
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr  
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser  
260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu  
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr  
290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu  
305 310 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val  
340 345 350

Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp  
355 360 365

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr  
370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
385 390 395 400

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser  
405 410 415

Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His  
420 425 430

Thr Ala Pro Gly Pro Leu Leu  
435

<210> 40  
<211> 424  
<212> PRT  
<213> Homo sapiens

<400> 40

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His  
 20 25 30  
 Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp  
 35 40 45  
 Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
 50 55 60  
 Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser  
 65 70 75 80  
 Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr  
 85 90 95  
 Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu  
 100 105 110  
 Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu  
 115 120 125  
 Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg  
 130 135 140  
 Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly  
 145 150 155 160  
 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp  
 165 170 175  
 Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro  
 180 185 190  
 Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln  
 195 200 205  
 Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp  
 210 215 220  
 Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr  
 225 230 235 240  
 Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro  
 245 250 255  
 Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe  
 260 265 270



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Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His  
275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser  
305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr  
325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly  
340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser  
355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val  
370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro  
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<213> Homo sapiens

<400> 41

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Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu  
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Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu  
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Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr  
50 55 60

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His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val  
 65 70 75 80  
 Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile  
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 Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile  
 100 105 110  
 Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys  
 115 120 125  
 Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe  
 130 135 140  
 Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu  
 145 150 155 160  
 Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys  
 165 170 175  
 Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu  
 180 185 190  
 Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro  
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 Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg  
 210 215 220  
 Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val  
 225 230 235 240  
 Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly  
 245 250 255  
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 260 265 270  
 Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met  
 275 280 285  
 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
 290 295 300  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
 305 310 315 320

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu  
325 330 335

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
340 345 350

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
355 360 365

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro  
370 375 380

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Pro Phe

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<213> Homo sapiens  
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Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu  
100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu  
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 Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp  
 130 135 140  
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 145 150 155 160  
 Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
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 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala  
 180 185 190  
 Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu  
 195 200 205  
 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
 210 215 220  
 Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu  
 225 230 235 240  
 Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser  
 245 250 255  
 Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser  
 260 265 270  
 Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr  
 275 280 285  
 Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg  
 290 295 300  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 305 310 315 320  
 Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 325 330 335  
 Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly  
 340 345 350  
 Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu

355

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile  
370 375 380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn  
385 390 395 400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr  
405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly  
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His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe  
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<210> 43  
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<212> PRT  
<213> Homo sapiens

<400> 43

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Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro  
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Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  
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Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly  
100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
Page 41

130

135

140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu  
 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
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Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
 195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
 210 215 220

Asn Asp Ile Glu Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr  
 245 250 255

Leu Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser  
 260 265 270

Leu Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu  
 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro  
 290 295 300

Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu  
 305 310 315 320

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 325 330 335

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 340 345 350

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp  
 355 360 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr  
 370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly  
 385 390 395 400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser  
 405 410 415

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 <213> Homo sapiens

<400> 44

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 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
 65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro  
 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  
 100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile  
 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu  
 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu  
 165 170 175  
 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser  
 180 185 190  
 Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp  
 195 200 205  
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 210 215 220  
 Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
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 Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr  
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 340 345 350  
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 355 360 365  
 Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu  
 370 375 380  
 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 385 390 395 400  
 Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser  
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<400> 45

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Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu  
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Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala  
85 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly  
100 105 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp  
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Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala  
180 185 190

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Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
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Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
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Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu  
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Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr  
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Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu  
305 310 315 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val  
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<223> Any "X" = any amino acid

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Page 46

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 Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
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 Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
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Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly  
 305 310 315 320

Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
 325 330 335

Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp  
 340 345 350

Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg  
 355 360 365

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu  
 370 375 380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe  
 385 390 395 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr  
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Thr Ala Gly Pro Leu Leu Ile  
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 Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro  
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Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro  
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 Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr  
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 Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
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Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg  
 545 550 555 560  
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 595 600 605  
 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 610 615 620  
 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
 625 630 635 640  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
 645 650 655  
 Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
 660 665 670  
 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 675 680 685  
 Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
 690 695 700  
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 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
 755 760 765  
 Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu  
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Asn	Gly 850	Ile	Gln	Glu	Leu	Gly 855	Pro	Tyr	Thr	Leu	Asp 860	Arg	Asn	Ser	Leu			
Tyr 865	Val	Asn	Gly	Phe	Thr 870	His	Arg	Ser	Ser	Met 875	Pro	Thr	Thr	Ser	Thr 880			
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Gly	Ser 930	Arg	Lys	Phe	Asn	Thr 935	Met	Glu	Ser	Val	Leu 940	Gln	Gly	Leu	Leu			
Lys 945	Pro	Leu	Phe	Lys	Asn 950	Thr	Ser	Val	Gly	Pro 955	Leu	Tyr	Ser	Gly	Cys 960			
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Asp	Ala	Ile	Cys 980	Thr	His	Arg	Leu	Asp 985	Pro	Lys	Ser	Pro	Gly 990	Leu	Asn			
Arg	Glu	Gln 995	Leu	Tyr	Trp	Glu	Leu 1000	Ser	Lys	Leu	Thr	Asn 1005	Asp	Ile	Glu			
Glu	Val 1010	Gly	Pro	Tyr	Thr	Leu 1015	Asp	Arg	Asn	Ser	Leu 1020	Tyr	Val	Asn				
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 Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys  
 500 505 510

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Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu  
515 520 525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro  
530 535 540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg  
545 550 555 560

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu  
565 570 575

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly  
580 585 590

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln  
595 600 605

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
610 615 620

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
625 630 635 640

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
645 650 655

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
660 665 670

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
675 680 685

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
690 695 700

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro  
705 710 715 720

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  
725 730 735

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile  
740 745 750

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
755 760 765

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu  
770 775 780

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu  
785 790 795 800

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser  
805 810 815

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp  
820 825 830

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr  
835 840 845

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
850 855 860

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr  
865 870 875 880

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser  
885 890 895

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu  
900 905 910

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr  
915 920 925

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu  
930 935 940

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
945 950 955 960

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val  
965 970 975

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn  
980 985 990

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu  
995 1000 1005

Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn  
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1010

1015

1020

Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly  
 1025 1030 1035

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu  
 1040 1045 1050

Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu  
 1055 1060 1065

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His  
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Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly  
 1085 1090 1095

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr  
 1100 1105 1110

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  
 1115 1120 1125

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys  
 1130 1135 1140

Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln  
 1145 1150 1155

Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 1160 1165 1170

His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr  
 1175 1180 1185

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser  
 1190 1195 1200

Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu  
 1205 1210 1215

Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr  
 1220 1225 1230

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 1235 1240 1245

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr  
 1250 1255 1260  
 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 1265 1270 1275  
 Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr  
 1280 1285 1290  
 Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu  
 1295 1300 1305  
 Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly  
 1310 1315 1320  
 Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr  
 1325 1330 1335  
 His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala  
 1340 1345 1350  
 Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro  
 1355 1360 1365  
 Ser Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr  
 1370 1375 1380  
 Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser  
 1385 1390 1395  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg  
 1400 1405 1410  
 Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
 1415 1420 1425  
 Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala Thr Gly  
 1430 1435 1440  
 Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg  
 1445 1450 1455  
 Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His  
 1460 1465 1470  
 Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu  
 1475 1480 1485



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Phe	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser	Val	Ser	Thr	Thr	Ser
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Thr	Pro	Gly	Thr	Pro	Thr	Val	Tyr	Leu	Gly	Ala	Ser	Lys	Thr	Pro
	1505					1510					1515			
Ala	Ser	Ile	Phe	Gly	Pro	Ser	Ala	Ala	Ser	His	Leu	Leu	Ile	Leu
	1520					1525					1530			
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Arg	Tyr	Glu	Glu	Asn
	1535					1540					1545			
Met	Trp	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu
	1550					1555					1560			
Gln	Gly	Leu	Leu	Arg	Pro	Leu	Phe	Lys	Asn	Thr	Ser	Val	Gly	Pro
	1565					1570					1575			
Leu	Tyr	Ser	Gly	Ser	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asp
	1580					1585					1590			
Gly	Glu	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys	Thr	His	Arg	Pro	Asp
	1595					1600					1605			
Pro	Thr	Gly	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Leu	Glu	Leu
	1610					1615					1620			
Ser	Gln	Leu	Thr	His	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu
	1625					1630					1635			
Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser
	1640					1645					1650			
Val	Pro	Thr	Thr	Ser	Thr	Gly	Val	Val	Ser	Glu	Glu	Pro	Phe	Thr
	1655					1660					1665			
Leu	Asn	Phe	Thr	Ile	Asn	Asn	Leu	Arg	Tyr	Met	Ala	Asp	Met	Gly
	1670					1675					1680			
Gln	Pro	Gly	Ser	Leu	Lys	Phe	Asn	Ile	Thr	Asp	Asn	Val	Met	Lys
	1685					1690					1695			
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Tyr	Thr	Gly	Cys	Arg	Val	Ile	Ala	Leu	Arg	Ser	Val	Lys	Asn	Gly
	1715					1720					1725			

Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu Gln Pro Leu  
 1730 1735 1740  
 Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu Leu Ser  
 1745 1750 1755  
 Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu Asp  
 1760 1765 1770  
 Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp  
 1775 1780 1785  
 Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro  
 1790 1795 1800  
 Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu  
 1805 1810 1815  
 Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met  
 1820 1825 1830  
 Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln  
 1835 1840 1845  
 His Leu Leu Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe  
 1850 1855 1860  
 Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly  
 1865 1870 1875  
 Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr His Pro Asp Pro  
 1880 1885 1890  
 Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp Glu Leu Ser  
 1895 1900 1905  
 Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val Leu Asp  
 1910 1915 1920  
 Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu Ser  
 1925 1930 1935  
 Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn  
 1940 1945 1950  
 Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu

1955						1960						1965
Arg	Asp	Ile	Gln	Asp	Lys	Val	Thr	Thr	Leu	Tyr	Lys	Gly Ser Gln
1970						1975					1980	
Leu	His	Asp	Thr	Phe	Arg	Phe	Cys	Leu	Val	Thr	Asn	Leu Thr Met
1985						1990					1995	
Asp	Ser	Val	Leu	Val	Thr	Val	Lys	Ala	Leu	Phe	Ser	Ser Asn Leu
2000						2005					2010	
Asp	Pro	Ser	Leu	Val	Glu	Gln	Val	Phe	Leu	Asp	Lys	Thr Leu Asn
2015						2020					2025	
Ala	Ser	Phe	His	Trp	Leu	Gly	Ser	Thr	Tyr	Gln	Leu	Val Asp Ile
2030						2035					2040	
His	Val	Thr	Glu	Met	Glu	Ser	Ser	Val	Tyr	Gln	Pro	Thr Ser Ser
2045						2050					2055	
Ser	Ser	Thr	Gln	His	Phe	Tyr	Leu	Asn	Phe	Thr	Ile	Thr Asn Leu
2060						2065					2070	
Pro	Tyr	Ser	Gln	Asp	Lys	Ala	Gln	Pro	Gly	Thr	Thr	Asn Tyr Gln
2075						2080					2085	
Arg	Asn	Lys	Arg	Asn	Ile	Glu	Asp	Ala	Leu	Asn	Gln	Leu Phe Arg
2090						2095					2100	
Asn	Ser	Ser	Ile	Lys	Ser	Tyr	Phe	Ser	Asp	Cys	Gln	Val Ser Thr
2105						2110					2115	
Phe	Arg	Ser	Val	Pro	Asn	Arg	His	His	Thr	Gly	Val	Asp Ser Leu
2120						2125					2130	
Cys	Asn	Phe	Ser	Pro	Leu	Ala	Arg	Arg	Val	Asp	Arg	Val Ala Ile
2135						2140					2145	
Tyr	Glu	Glu	Phe	Leu	Arg	Met	Thr	Arg	Asn	Gly	Thr	Gln Leu Gln
2150						2155					2160	
Asn	Phe	Thr	Leu	Asp	Arg	Ser	Ser	Val	Leu	Val	Asp	Gly Tyr Ser
2165						2170					2175	
Pro	Asn	Arg	Asn	Glu	Pro	Leu	Thr	Gly	Asn	Ser	Asp	Leu Pro Phe
2180						2185					2190	

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile  
 2195 2200 2205

Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys  
 2210 2215 2220

Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr  
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Gln Ser His Leu Asp Leu Glu Asp Leu Gln  
 2240 2245

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24

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20

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&lt;223&gt; Synthetic Primer

&lt;400&gt; 65

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32

&lt;210&gt; 66

&lt;211&gt; 29

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic Primer

&lt;400&gt; 66

tgtaagctta ggcagggagg atggagtcc

29

&lt;210&gt; 67

&lt;211&gt; 507

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 67

atgagaggat cgcatacca tcaccatcac ggatccatgg gccacacaga gcctggccct 60

ctcctgatac cattcacttt caactttacc atcaccaacc tgcattatga ggaaaacatg 120

caacaccctg gttccaggaa gttcaacacc acggagaggg ttctgcaggg tctgctcaag 180

cccttgttca agaacaccag tgttggccct ctgtactctg gctgcagact gaccttgctc 240

agacctgaga agcatgaggc agccactgga gtggacacca tctgtaccca ccgcgttgat 300

cccatacggac ctggactgga cagagagcgg ctatactggg agctgagcca gctgaccaac 360

agcatcacag agctgggacc ctacaccctg gacagggaca gtctctatgt caatggcttc 420

aaccctcgga gctctgtgcc aaccaccagc actcctggga cctccacagt gcacctggca 480

acctctggga ctccatcctc cctgcct 507

&lt;210&gt; 68

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 68

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1 5 10 15Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr  
20 25 30Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
35 40 45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
50 55 60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
65 70 75 80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr  
85 90 95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr  
100 105 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr  
115 120 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser  
130 135 140

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Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80



Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly  
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe  
275 280 285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His  
290 295 300

His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly  
305 310 315 320

325

330

335

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr  
 340 345 350

Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly  
 355 360 365

Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly  
 370 375 380

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val  
 385 390 395 400

Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly  
 405 410 415

Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro  
 420 425 430

Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe  
 435 440 445

Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser  
 450 455 460

Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro  
 465 470 475 480

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu  
 485 490 495

Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala  
 500 505 510

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu  
 515 520 525

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu  
 530 535 540

Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr  
 545 550 555 560

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val  
 565 570 575

His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala  
 580 585 590

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 595 600 605

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn  
 610 615 620

Thr Met Glu Arg Val Leu Gln Gly Cys Leu Val Pro Cys Ser Arg Asn  
 625 630 635 640

Thr Asn Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 645 650 655

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa  
 660 665 670

Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp  
 675 680 685

Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Thr  
 690 695 700

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser  
 705 710 715 720

Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr  
 725 730 735

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Val Pro Leu Leu  
 740 745 750

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu  
 755 760 765

Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
 770 775 780

Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro  
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Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly  
 805 810 815

Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln  
 820 825 830

Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val  
835 840 845

Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser  
850 855 860

Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser  
865 870 875 880

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885 890 895

Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile  
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<212> PRT  
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Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn  
35 40 45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
50 55 60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu  
65 70 75 80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr  
85 90 95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser  
100 105 110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu  
115 120 125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro  
130 135 140

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Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu  
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 Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys  
 165 170 175  
 Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val  
 180 185 190  
 Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp  
 195 200 205  
 Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr  
 210 215 220  
 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly  
 225 230 235 240  
 Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser  
 245 250 255  
 Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His  
 260 265 270  
 Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile  
 275 280 285  
 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys  
 290 295 300  
 Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe  
 305 310 315 320  
 Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu  
 325 330 335  
 Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys  
 340 345 350  
 Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu  
 355 360 365  
 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro  
 370 375 380  
 Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp  
 385 390 395 400

Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu  
405 410 415

Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly  
420 425 430

Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln  
435 440 445

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met  
450 455 460

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser  
465 470 475 480

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu  
485 490 495

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
500 505 510

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
515 520 525

<210> 71  
<211> 594  
<212> PRT  
<213> Homo sapiens

<400> 71

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro  
35 40 45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu  
100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp  
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala  
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
210 215 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser  
245 250 255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser  
260 265 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr  
275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg  
290 295 300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
305 310 315 320

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
325 330 335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly

340

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu  
355 360 365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile  
370 375 380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn  
385 390 395 400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr  
405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly  
420 425 430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr  
435 440 445

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg  
450 455 460

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu  
465 470 475 480

Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr  
485 490 495

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile  
500 505 510

Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln  
515 520 525

Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly  
530 535 540

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His  
545 550 555 560

Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp  
565 570 575

Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly  
580 585 590



Pro Leu

<210> 72  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens  
 <400> 72

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His  
 20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp  
 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser  
 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr  
 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu  
 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu  
 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg  
 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly  
 145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp  
 165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro  
 180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln  
 195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp  
 210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr  
 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro  
 245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe  
 260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His  
 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser  
 305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr  
 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly  
 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser  
 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val  
 370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
 385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro  
 405 410 415

Gly His Thr Ala Pro Val Pro Leu  
 420

<210> 73  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens  
 <400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
 1 5 10 15  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
 20 25 30  
 Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
 35 40 45  
 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60  
 Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
 65 70 75 80  
 Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro  
 85 90 95  
 Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly  
 100 105 110  
 Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val  
 115 120 125  
 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 130 135 140  
 Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 145 150 155 160  
 Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu  
 165 170 175  
 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala  
 180 185 190  
 Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn  
 195 200 205  
 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
 210 215 220  
 Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu  
 225 230 235 240  
 Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr  
 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser  
260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 74  
<211> 286  
<212> PRT  
<213> Homo sapiens

<400> 74

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys  
20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro  
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly  
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala  
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr  
245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser  
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 75  
<211> 286  
<212> PRT  
<213> Homo sapiens

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp  
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr  
85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg  
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile  
115 120 125

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Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala  
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg  
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr  
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 76  
<211> 286  
<212> PRT  
<213> Homo sapiens  
<400> 76

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser  
1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu  
20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro  
35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
50 55 60

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Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu  
85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly  
100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn  
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  
180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser  
195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr  
210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu  
225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr  
245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser  
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 77  
<211> 288  
<212> PRT  
<213> Homo sapiens  
<400> 77

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Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser  
 1 5 10 15  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu  
 20 25 30  
 Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
 35 40 45  
 Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 50 55 60  
 Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp  
 65 70 75 80  
 Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
 85 90 95  
 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly  
 100 105 110  
 Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile  
 115 120 125  
 Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn  
 130 135 140  
 Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 145 150 155 160  
 Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu  
 165 170 175  
 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala  
 180 185 190  
 Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser  
 195 200 205  
 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr  
 210 215 220  
 Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
 225 230 235 240  
 Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr  
 245 250 255



Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser  
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe  
275 280 285

<210> 78  
<211> 597  
<212> PRT  
<213> Homo sapiens

<400> 78

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg  
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu  
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp  
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro  
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly  
100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile  
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala  
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly  
195 200 205

Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn  
210 215 220

Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr  
225 230 235 240

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro  
245 250 255

Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu  
260 265 270

Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn  
275 280 285

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly  
290 295 300

Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys  
305 310 315 320

Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
325 330 335

Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp  
340 345 350

Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg  
355 360 365

Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu  
370 375 380

Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe  
385 390 395 400

Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr  
405 410 415

Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile  
420 425 430

Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr

435

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe  
450 455 460

Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys  
465 470 475 480

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu  
485 490 495

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr  
500 505 510

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
515 520 525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr  
530 535 540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser  
545 550 555 560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly  
565 570 575

Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro  
580 585 590

Leu Leu Ile Pro Phe  
595

<210> 79  
<211> 420  
<212> PRT  
<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys  
1 5 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn  
20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser  
35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg  
Page 95

50

55

60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr  
65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr  
85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro  
100 105 110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met  
115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln  
130 135 140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr  
145 150 155 160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala  
165 170 175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro  
180 185 190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn  
195 200 205

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr  
210 215 220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro  
225 230 235 240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val  
245 250 255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn  
260 265 270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly  
275 280 285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg  
290 295 300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
 305 310 315 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp  
 325 330 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg  
 340 345 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu  
 355 360 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe  
 370 375 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr  
 385 390 395 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser  
 405 410 415

Ala Ala Ser Pro  
 420

<210> 80  
 <211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 80

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu  
 1 5 10 15

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr  
 20 25 30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val  
 35 40 45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile  
 50 55 60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile  
 65 70 75 80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys  
 85 90 95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe  
 100 105 110  
 Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu  
 115 120 125  
 Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys  
 130 135 140  
 Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu  
 145 150 155 160  
 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro  
 165 170 175  
 Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg  
 180 185 190  
 Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu  
 195 200 205  
 Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val  
 210 215 220  
 Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys  
 225 230 235 240  
 Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 245 250 255  
 Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser  
 260 265 270  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu  
 275 280 285  
 Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu  
 290 295 300  
 Asp Pro Lys Ser Leu Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 305 310 315 320  
 Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp  
 325 330 335  
 Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro  
 340 345 350

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Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly  
355 360 365

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val  
370 375 380

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
385 390 395 400

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu  
405 410 415

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu  
420 425 430

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  
435 440 445

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser  
450 455 460

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu  
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 Page 102

85

90

95

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	ctgaccttgc	tcagacctga	gaagcatgag	gcagccactg	gagtggacac	catctgtacc	240
	caccgcgttg	atcccatcgg	acctggactg	nacagngagc	ngctntactg	ggagctnagc	300
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 <212> DNA  
 <213> Homo sapiens

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 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagag ggtcctgcag 120  
 actctgcttg gtcctatgtt caagaacacc agtggttgcc ttctgtactc tggctgcaga 180  
 ctgaccttgc tcagggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240  
 caccgtcttg accccaaaag ccctggagtg gacagggagc aactatactg ggagctgagc 300  
 cagctgacca atggcattaa agaactgggc ccctacaccc tggacaggaa cagtctctat 360  
 gtcaatgggt tcaccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420  
 gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca 465

<210> 110  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 110  
 actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac 60  
 gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag 120  
 agtctgcttg gtcccatgtt caagaacacc agtggttgcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240  
 caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc 300  
 cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat 360  
 gtcaatgggt tcaccatca gacctctgcg cccaacacca gcactcctgg gacctccaca 420  
 gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468

<210> 111  
 <211> 465  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(465)

<223> All N's = any nucleotide

<400> 111

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ncnnctgncc ctctcctgnt ncnnttcacc ntcaacttna ccatcaccaa cctgcantan      60
gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag      120
ggctctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga      180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc      240
caccnnctn ancccaaaag ncctggactg nacagnagc ngctntactg ggagctnagc      300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat      360
gtcaatgggt tcaccattg gatccctgtg cccaccagca gcactcctgg gacctccaca      420
gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca                        465
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<210> 112

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 112

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actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac      60
gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag      120
agtcctgcttg gtcccatggt caagaacacc agtgttggcc ctctgtactc tggctgcaga      180
ctgacctcgc tcagggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc      240
caccgtgttg acccaaaaag ccctggagtg gacagggagc agctatactg ggagctgagc      300
cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat      360
gtcaatgggt tcaccatca gacctctgcg cccaacacca gcactcctgg gacctccaca      420
gtgnacntng gnacctcngg gactccatcc tcntcccn gccncaca                        468
```

<210> 113

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 113

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tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac      60
```

gaggaggaca tgcatacccc aggtctcagg aagttcaaca ccacggagcg ggtcctgcag 120  
 ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180  
 ctgaccttgc tcaggcctga gaagaatggg gcaaccactg gaatggatgc catctgcacc 240  
 caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggtt tcacccatcn gantcttngg cccaccacca gactccttgg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccntcccn gccncaca 468

<210> 114  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 114  
 ncnctgncc ctctcctgnt ncncttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagag ggttctgcag 120  
 ggtctgctca aacccttggt caggaatagc agtctggaat acctctattc aggctgcaga 180  
 ctgacctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcaca 240  
 catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc 300  
 aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctat 360  
 gtcaatgggtt tcacccatcg aagctctatg cccaccacca gactccttgg gacctccaca 420  
 gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg 468

<210> 115  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 115  
 actgctggcc ctctcctgat accattcacc ctcaacttca ccatcaccaa cctgcagtat 60  
 ggggaggaca tgggtcacc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120  
 ggtctgcttg gtcccatatt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180  
 ctgacctctc tcaggcttga gaaggatgga gcagccactg gagtggatgc catctgcatc 240  
 catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc 300  
 caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360  
 gtcaatgggtt tcacccatcg gacctctgtg cccaccacca gactccttgg gacctccaca 420

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca 468

<210> 116  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 116  
 actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat 60  
 gaggaggaca tgcattgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag 120  
 actctgcttg gtcctatggt caagaacacc agtggtggcc ttctgtactc tggctgcaga 180  
 ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240  
 caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggt tcacccatcn gantctgng cccaccacca gactcctgg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccntcccn gccncaca 468

<210> 117  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 117  
 ncnctgncc ctctcctgnt ncncttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagag agtccttcag 120  
 ggtctgctca ggctgtggt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc 240  
 taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300  
 cagctaacc acagcatcac tgagctgggc ccctacaccc aggacaggga cagtctctat 360  
 gtcaatgggt tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca 420  
 gtgcacctgg aaaccactgg gactccatcc tccttccccg gccacaca 468

<210> 118

<211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 118  
 gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcgttat 60  
 gaggaaaaca tgcaacaccc tgggtccagg aagttcaaca ccacggagag ggttctgcag 120  
 ggtctgctca cgcccttggt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc 240  
 caccgcgttg atcccatcgg acctggactg gacagagagc ggctatactg ggagctgagc 300  
 cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360  
 gtcgatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420  
 gtgcacctgg caacctctgg gactccatcc cccctgcctg gccacaca 468

<210> 119  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 119  
 gccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccga cctgcattat 60  
 gaagaaaaca tgcaacaccc tgggtccagg aagttcaaca ccacggagag ggttctgcag 120  
 ggtctgctca agcccttggt caagagcacc agcgttggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240  
 ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc 300  
 cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360  
 gtcaatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420  
 gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 120  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 120  
 actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac 60  
 gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag 120  
 agtctgcatg gtcccatggt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180



```

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gaggatgc catctgcacc 240
caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360
gtcaatgggt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420
gtgnacntng gnacctcngg gactccatcc tcntcccn gccncaca 468

```

```

<210> 121
<211> 468
<212> DNA
<213> Homo sapiens

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```

<220>
<221> misc_feature
<222> (1)..(468)
<223> All N's = any nucleotide

```

```

<400> 121
ncnctgncc ctctcctgnt ncncttcacc ntcaacttna ccatcaccaa cctgcantan 60
gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120
ggctctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240
caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300
canctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360
gtcaatgggt tcacccatcg aagctctatg cccaccacca gtattcctgg gacctctgca 420
gtgcacctgg aaacctctgg gactccagcc tccctcctg gccacaca 468

```

```

<210> 122
<211> 468
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<222> (1)..(468)
<223> All N's = any nucleotide

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<400> 122
gccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60
gaggaggaca tgcgtcacc tggttccagg aagttcaaca ccacggagag agtcctgcag 120
ggctctgctca agcccttggt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180
ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact 240
caccgccttg accctctaaa ccctggactg nacagngagc ngctntactg ggagctnagc 300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

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gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420  
gtgnacntng gnacctcngg gactccatcc tcntcccn gccncaca 468

<210> 123  
<211> 468  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(468)  
<223> All N's = any nucleotide

<400> 123  
ncnctgncc ctctcctgnt ncnctcacc ntcaacttna ccatcaccaa cctgcantan 60  
gnggannaca tgcnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
ggctctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240  
caccnncntn ancccaaaag ncctggactg nacagnagc ngctntactg ggagctnagc 300  
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
gtcaatggtt ttcaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420  
gtgcacctgg caacctctgg gactccatcc tcctgcctg gccacaca 468

<210> 124  
<211> 468  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(468)  
<223> All N's = any nucleotide

<400> 124  
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat 60  
gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagcg ggtcctgcag 120  
ggctctgcttg gtcccatggt caagaacaca agtgtcggcc ttctgtactc tggctgcaga 180  
ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc 240  
caccgtcttg acccaaaaag ccctggactg nacagnagc ngctntactg ggagctnagc 300  
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420  
gtgnacntng gnacctcngg gactccatcc tcntcccn gccncaca 468

<210> 125  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 125  
 ncnntgncc ctctcctgnt ncnnttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
 ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
 ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240  
 caccnnctn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca 420  
 gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca 468

<210> 126  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 126  
 gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat 60  
 gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120  
 ggtctgctca cgcccttggt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagacctga gaagcaggag gcagccactg gaggggacac catctgtacc 240  
 caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccttccccn gccncaca 468

<210> 127  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 127  
 ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
 ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
 ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240  
 caccnncntn ancccaaaag nctggactg nacagnagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggtt tcacccatcg gagctctgtg ccaaccacca gcagtctctgg gacctccaca 420  
 gtgcacctgg caacctctgg gactccatcc tccttgctg gccacaca 468

<210> 128  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 128  
 gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat 60  
 gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120  
 ggtctgtcta agcccttggt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240  
 ctccgccttg atccactgg tcctggactg nacagnagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggtt tcacccatcn ganctctgng cccaccacca gcactctctgg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccttccccn gccncaca 468

<210> 129  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)

<223> All N's = any nucleotide

<400> 129  
 ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
 ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
 ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240  
 caccnncntn ancccaaaag ncctggactg nacagnagac ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatggtt tcacccatcg gacctctgtg cccaccacca gactcctgg gacctccaca 420  
 gtgcacctgg caacctctgg gactccatcc tcctgcctg gccacaca 468

<210> 130  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 130  
 gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcagtat 60  
 gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag 120  
 ggtctgctta gtccattttt caagaactcc agtgttg gcc ctctgtactc tggctgcaga 180  
 ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240  
 taccacccta atcccaaaag acctggactg nacagnagac ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatggtt tcacccatcn gantctgng cccaccacca gactcctgg gacctccaca 420  
 gtgnacntng gnacctngg gactccatcc tcntcccn gccncaca 468

<210> 131  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 131  
 ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
 ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
 ctgacctnnc tcaggncong gaagnatggn gcagccactg gantggatgc catctgcanc 240  
 caccnnctn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggt tcacccattg gagctctggg ctcaccacca gactccttg gacttccaca 420  
 gttgacctg gaacctcagg gactccatcc cccgtcccca gccccaca 468

<210> 132  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 132  
 actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat 60  
 gaggaggaca tgcatcgccc tggatctagg aagttcaacg ccacagagag ggtcctgcag 120  
 ggtctgctta gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180  
 ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc 240  
 caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggt tcacccatcn gantctgng cccaccacca gactccttg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccntcccn gccncaca 468

<210> 133  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 133  
 ncnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60  
 gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
 ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
 ctgacctnnc tcaggncong gaagnatggn gcagccactg gantggatgc catctgcanc 240

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caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc	300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat	360
gtcaatgggtt tcacccatcg gagctttggg ctcaccacca gcactccttg gacttcaca	420
gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca	468

<210> 134  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 134 actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat	60
gaggaggaca tgcacgccc tggctccagg aagttcaaca ccacggagag ggtccttcag	120
ggtctgctta cgcccttggt caggaacacc agtgtcagct ctctgtactc tggttgcaga	180
ctgaccttgc tcaggcctga gaaggatggg gcagccacca gaggatgc tgtctgcacc	240
catcgtcctg acccaaaaag ccctggactg nacagngagc ngctntactg ggagctnagc	300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat	360
gtcaatgggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca	420
gtgnacntng gnacctcngg gactccatcc tcntcccn gccncaca	468

<210> 135  
 <211> 465  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(465)  
 <223> All N's = any nucleotide

<400> 135 ncnnctgncc ctctcctgnt ncnttcacc ntcaacttna ccatcaccaa cctgcantan	60
ngggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag	120
ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga	180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc	240
caccnncntn ancccaaaaag ncctggactg nacagngagc ngctntactg ggagctnagc	300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat	360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420  
gtggaccttg ggtcaggagac tccatcctcc ctccccagcc ccaca 465

<210> 136  
<211> 468  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(468)  
<223> All N's = any nucleotide

<400> 136  
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ggggaggaca tgggtcacc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120  
ggtctgcttg gtcccatatt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180  
ctgacctctc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcata 240  
catcatcttg accccaaaag ccctggactg nacagnagc ngctntactg ggagctnagc 300  
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
gtcaatggtt tcacccatcn gantctgtng cccaccacca gcactcctgg gacctccaca 420  
gtgnacntng gnacctcngg gactccatcc tccntcccn gccncaca 468

<210> 137  
<211> 468  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(468)  
<223> All N's = any nucleotide

<400> 137  
ncnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60  
gnggannaca tgcnnncccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120  
ggtctgctnn nccccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180  
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240  
caccnncntn ancccaaaag ncctggactg nacagnagc ngctntactg ggagctnagc 300  
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
gtcaatggtt tcacccatca gacctttgcg cccaacacca gcactcctgg gacctccaca 420  
gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468



<210> 138  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 138  
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 gaggaggaca tgcattaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120  
 ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180  
 ctgaccttgc tcaggcctga gaagaatggg gcagccacca gagggatgc tgtctgcacc 240  
 catcgtcctg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300  
 canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360  
 gtcaatgggt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420  
 gtgnacntng gnacctcngg gactccatcc tccttccccn gccncaca 468

<210> 139  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
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 <222> (1)..(468)  
 <223> All N's = any nucleotide

<400> 139  
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 ggtctgctca agcccttggt caagagcacc agtggtggcc ctctgtattc tggctgcaga 180  
 ctgaccttgc tcaggcctga gaaggacgga gtagccacca gaggtaggc catctgcacc 240  
 caccgccctg accccaaaat ccctgggcta gacagacagc agctatactg ggagctgagc 300  
 cagctgaccc acagcatcac tgagctggga ccctacaccc tggataggga cagtctctat 360  
 gtcaatgggt tcacccagcg gagctctgtg cccaccacca gcactcctgg gactttcaca 420  
 gtacagccgg aaacctctga gactccatca tccctccctg gccccaca 468

<210> 140  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

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<400> 140  
gccactggcc ctgtcctgct gccattcacc ctcaatttta ccatcactaa cctgcagtat 60  
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ggtctgctta tgcccttggt caagaacacc agtgtcagct ctctgtactc tggttgcaga 180  
ctgaccttgc tcaggcctga gaaggatggg gcagccacca gaggatgagc tgtctgcacc 240  
catcgtcctg accccaaaag ccctggactg gacagagagc ggctgtactg gaagctgagc 300  
cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggca cagtctctat 360  
gtcaatgggt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca 420  
atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg 468

<210> 141  
<211> 468  
<212> DNA  
<213> Homo sapiens

<400> 141  
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ggtctgctca ggcctgtggt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180  
ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aaggatgagc catctgcacc 240  
taccgccctg atcccaaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300  
cagctaacc acagcatcac tgagctgggc ccctacaccc tggacaggga cagtctctat 360  
gtcaatgggt tcacacagcg gagctctgtg cccaccacta gcattcctgg gacccccaca 420  
gtggacctgg gaacatctgg gactccagtt tctaaacctg gtccctcg 468

<210> 142  
<211> 468  
<212> DNA  
<213> Homo sapiens

<400> 142  
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ggcctgctca ggtccctggt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180  
ctgactttgc tcaggcctga aaaggatggg acagccactg gaggatgagc catctgcacc 240  
caccaccctg accccaaaag ccctaggctg gacagagagc agctgtattg ggagctgagc 300  
cagctgaccc acaatatcac tgagctgggc cactatgccc tggacaacga cagcctcttt 360  
gtcaatgggt tcatcctcg gagctctgtg tccaccacca gcactcctgg gacccccaca 420  
gtgtatctgg gagcatctaa gactccagcc tcgatatttg gcccttca 468

<210> 143  
 <211> 399  
 <212> DNA  
 <213> Homo sapiens

<400> 143  
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 ctgctaaggc ccttgttcaa gaacaccagt gttggccctc tgtactctgg ctccaggctg 180  
 accttgctca ggccagagaa agatggggaa gccaccggag tggatgccat ctgcaccac 240  
 cgccctgacc ccacaggccc tgggctggac agagagcagc tgtatttgga gctgagccag 300  
 ctgaccaca gcatcactga gctgggcccc tacacactgg acagggacag tctctatgtc 360  
 aatggtttca cccatcggag ctctgtaccc accaccagc 399

<210> 144  
 <211> 453  
 <212> DNA  
 <213> Homo sapiens

<400> 144  
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 atggcggaca tgggccaacc cggctccctc aagttcaaca tcacagaaa cgtcatgaag 120  
 cacctgctca gtcctttgtt ccagaggagc agcctgggtg cacggtacac aggctgcagg 180  
 gtcatgcac taaggtctgt gaagaacggt gctgagacac ggggtggacct cctctgcacc 240  
 tacctgcagc ccctcagcgg cccaggctctg cctatcaagc aggtgttcca tgagctgagc 300  
 cagcagaccc atggcatcac ccggctgggc ccctactctc tggacaaaaga cagcctctac 360  
 cttaacggtt acaatgaacc tggcttagat gagcctccta caactccaa gccagccacc 420  
 acattcctgc ctcctctgtc agaagccaca aca 453

<210> 145  
 <211> 465  
 <212> DNA  
 <213> Homo sapiens

<400> 145  
 gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctcaa tctccagtat 60  
 tcaccagata tgggcaaggc ctgagctaca ttcaactcca ccgaggggggt ccttcagcac 120  
 ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg 180  
 atctccctca ggcctgagaa ggatggggca gccactggtg tggacaccac ctgcacctac 240  
 caccctgacc ctgtgggccc cgggctggac atacagcagc tttactggga gctgagtcag 300  
 ctgacccatg gtgtcaccca actgggcttc tatgtcctgg acagggatag cctcttcac 360

aatggctatg caccacagaa tttatcaatc cggggcgagt accagataaa tttccacatt 420  
gtcaactgga acctcagtaa tccagacccc acatcctcag agtac 465

<210> 146  
<211> 9799  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MISC\_FEATURE  
<222> (1)..(9799)  
<223> Any "X" = any amino acid

<400> 146

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg  
35 40 45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu  
50 55 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr  
65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr  
85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr  
100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser  
115 120 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly  
130 135 140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro  
145 150 155 160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr  
165 170 175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu  
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180

185

190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val  
 195 200 205  
 Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 210 215 220  
 Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp  
 225 230 235 240  
 Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser  
 245 250 255  
 Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 260 265 270  
 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr  
 275 280 285  
 Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr  
 290 295 300  
 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu  
 305 310 315 320  
 Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu  
 325 330 335  
 Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
 340 345 350  
 Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro  
 355 360 365  
 Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly  
 370 375 380  
 Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys  
 385 390 395 400  
 Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu  
 405 410 415  
 Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser  
 420 425 430

Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser  
 435 440 445  
 Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe  
 450 455 460  
 Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr  
 465 470 475 480  
 Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg  
 485 490 495  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu  
 500 505 510  
 Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly  
 515 520 525  
 Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly  
 530 535 540  
 Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu  
 545 550 555 560  
 Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile  
 565 570 575  
 Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn  
 580 585 590  
 Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr  
 595 600 605  
 Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro  
 610 615 620  
 Thr Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile  
 625 630 635 640  
 Thr Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys  
 645 650 655  
 Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe  
 660 665 670  
 Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu  
 675 680 685

Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys  
 690 695 700  
 Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu  
 705 710 715 720  
 Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro  
 725 730 735  
 Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln  
 740 745 750  
 Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu  
 755 760 765  
 Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly  
 770 775 780  
 Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln  
 785 790 795 800  
 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 805 810 815  
 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser  
 820 825 830  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu  
 835 840 845  
 Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu  
 850 855 860  
 Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 865 870 875 880  
 Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp  
 885 890 895  
 Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro  
 900 905 910  
 Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly  
 915 920 925  
 Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val  
 930 935 940

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
945 950 955 960

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
965 970 975

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu  
980 985 990

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala  
995 1000 1005

Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys  
1010 1015 1020

Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln  
1025 1030 1035

Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
1040 1045 1050

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala  
1055 1060 1065

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser  
1070 1075 1080

Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu  
1085 1090 1095

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr  
1100 1105 1110

Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
1115 1120 1125

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser  
1130 1135 1140

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg  
1145 1150 1155

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr  
1160 1165 1170

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu  
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1175

1180

1185

Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly  
1190 1195 1200

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr  
1205 1210 1215

His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr  
1220 1225 1230

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro  
1235 1240 1245

Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr  
1250 1255 1260

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser  
1265 1270 1275

Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser  
1280 1285 1290

Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys  
1295 1300 1305

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly  
1310 1315 1320

Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly  
1325 1330 1335

Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His  
1340 1345 1350

Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu  
1355 1360 1365

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser  
1370 1375 1380

Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro  
1385 1390 1395

Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro  
1400 1405 1410

Phe	Thr	Phe	Asn	Phe	Thr	Ile	Thr	Asn	Leu	His	Tyr	Glu	Glu	Asn
1415						1420					1425			
Met	Gln	His	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val
1430						1435					1440			
Leu	Gln	Gly	Leu	Leu	Lys	Pro	Leu	Phe	Lys	Asn	Thr	Ser	Val	Gly
1445						1450					1455			
Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg	Pro	Glu	Lys
1460						1465					1470			
Asp	Gly	Ala	Ala	Thr	Gly	Met	Asp	Ala	Val	Cys	Leu	Tyr	His	Pro
1475						1480					1485			
Asn	Pro	Lys	Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Cys	Glu
1490						1495					1500			
Leu	Ser	Gln	Leu	Thr	His	Asn	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Ser
1505						1510					1515			
Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Gln	Asn
1520						1525					1530			
Ser	Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Tyr	Trp
1535						1540					1545			
Ala	Thr	Thr	Gly	Thr	Pro	Ser	Ser	Phe	Pro	Gly	His	Thr	Glu	Pro
1550						1555					1560			
Gly	Pro	Leu	Leu	Ile	Pro	Phe	Thr	Phe	Asn	Phe	Thr	Ile	Thr	Asn
1565						1570					1575			
Leu	His	Tyr	Glu	Glu	Asn	Met	Gln	His	Pro	Gly	Ser	Arg	Lys	Phe
1580						1585					1590			
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Lys	Pro	Leu	Phe
1595						1600					1605			
Lys	Asn	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr
1610						1615					1620			
Leu	Leu	Arg	Pro	Glu	Lys	His	Glu	Ala	Ala	Thr	Gly	Val	Asp	Thr
1625						1630					1635			
Ile	Cys	Thr	His	Arg	Val	Asp	Pro	Ile	Gly	Pro	Gly	Leu	Asp	Arg
1640						1645					1650			

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Glu	Arg	Leu	Tyr	Trp	Glu	Leu	Ser	Gln	Leu	Thr	Asn	Ser	Ile	Thr
	1655					1660					1665			
Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn
	1670					1675					1680			
Gly	Phe	Asn	Pro	Arg	Ser	Ser	Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly
	1685					1690					1695			
Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu
	1700					1705					1710			
Pro	Gly	His	Thr	Ala	Pro	Val	Pro	Leu	Leu	Ile	Pro	Phe	Thr	Leu
	1715					1720					1725			
Asn	Phe	Thr	Ile	Thr	Asn	Leu	His	Tyr	Glu	Glu	Asn	Met	Gln	His
	1730					1735					1740			
Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly
	1745					1750					1755			
Leu	Leu	Lys	Pro	Leu	Phe	Lys	Asn	Thr	Ser	Val	Gly	Pro	Leu	Tyr
	1760					1765					1770			
Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	His	Glu	Ala
	1775					1780					1785			
Ala	Thr	Gly	Val	Asp	Thr	Ile	Cys	Thr	His	Arg	Val	Asp	Pro	Ile
	1790					1795					1800			
Gly	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa
	1805					1810					1815			
Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg
	1820					1825					1830			
Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
	1835					1840					1845			
Xaa	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser
	1850					1855					1860			
Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Ser	Ala	Gly	Pro	Leu
	1865					1870					1875			
Leu	Val	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr
	1880					1885					1890			

Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 1895 1900 1905  
 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr  
 1910 1915 1920  
 Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 1925 1930 1935  
 Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser  
 1940 1945 1950  
 His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu  
 1955 1960 1965  
 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly  
 1970 1975 1980  
 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr  
 1985 1990 1995  
 His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr  
 2000 2005 2010  
 Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro  
 2015 2020 2025  
 Thr Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr  
 2030 2035 2040  
 Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser  
 2045 2050 2055  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly  
 2060 2065 2070  
 Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys  
 2075 2080 2085  
 Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly  
 2090 2095 2100  
 Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly  
 2105 2110 2115  
 Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn

2120

2125

2130

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
 2135 2140 2145

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser  
 2150 2155 2160

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro  
 2165 2170 2175

Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro  
 2180 2185 2190

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 2195 2200 2205

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val  
 2210 2215 2220

Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly  
 2225 2230 2235

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys  
 2240 2245 2250

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro  
 2255 2260 2265

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu  
 2270 2275 2280

Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser  
 2285 2290 2295

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser  
 2300 2305 2310

Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu  
 2315 2320 2325

Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala  
 2330 2335 2340

Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr Asn  
 2345 2350 2355

Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe  
 2360 2365 2370  
 Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe  
 2375 2380 2385  
 Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr  
 2390 2395 2400  
 Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala  
 2405 2410 2415  
 Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg  
 2420 2425 2430  
 Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu  
 2435 2440 2445  
 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn  
 2450 2455 2460  
 Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly  
 2465 2470 2475  
 Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu  
 2480 2485 2490  
 Ser Ser Pro Thr Ile Met Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe  
 2495 2500 2505  
 Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met  
 2510 2515 2520  
 Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 2525 2530 2535  
 Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser  
 2540 2545 2550  
 Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp  
 2555 2560 2565  
 Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp  
 2570 2575 2580  
 Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu  
 2585 2590 2595

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Ser	Gln	Leu	Thr	His	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu
	2600					2605					2610			
Asp	Arg	Val	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Asn	Pro	Arg	Ser	Ser
	2615					2620					2625			
Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	His	Leu	Ala
	2630					2635					2640			
Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu	Pro	Gly	His	Thr	Ala	Pro	Val
	2645					2650					2655			
Pro	Leu	Leu	Ile	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu
	2660					2665					2670			
His	Tyr	Glu	Glu	Asn	Met	Gln	His	Pro	Gly	Ser	Arg	Lys	Phe	Asn
	2675					2680					2685			
Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Arg	Pro	Leu	Phe	Lys
	2690					2695					2700			
Ser	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu
	2705					2710					2715			
Leu	Arg	Pro	Glu	Lys	His	Gly	Ala	Ala	Thr	Gly	Val	Asp	Ala	Ile
	2720					2725					2730			
Cys	Thr	Leu	Arg	Leu	Asp	Pro	Thr	Gly	Pro	Gly	Leu	Asp	Arg	Glu
	2735					2740					2745			
Arg	Leu	Tyr	Trp	Glu	Leu	Ser	Gln	Leu	Thr	Asn	Ser	Val	Thr	Glu
	2750					2755					2760			
Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly
	2765					2770					2775			
Phe	Thr	Gln	Arg	Ser	Ser	Val	Pro	Thr	Thr	Ser	Ile	Pro	Gly	Thr
	2780					2785					2790			
Ser	Ala	Val	His	Leu	Glu	Thr	Ser	Gly	Thr	Pro	Ala	Ser	Leu	Pro
	2795					2800					2805			
Gly	His	Thr	Ala	Pro	Gly	Pro	Leu	Leu	Val	Pro	Phe	Thr	Leu	Asn
	2810					2815					2820			
Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Val	Asp	Met	Arg	His	Pro
	2825					2830					2835			

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 2840 2845 2850  
 Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser  
 2855 2860 2865  
 Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala  
 2870 2875 2880  
 Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn  
 2885 2890 2895  
 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu  
 2900 2905 2910  
 Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly  
 2915 2920 2925  
 Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile  
 2930 2935 2940  
 Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu  
 2945 2950 2955  
 Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu  
 2960 2965 2970  
 Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu  
 2975 2980 2985  
 Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
 2990 2995 3000  
 Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser  
 3005 3010 3015  
 Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro  
 3020 3025 3030  
 Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His  
 3035 3040 3045  
 His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr  
 3050 3055 3060  
 Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro



3065

3070

3075

Tyr	Thr	Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asp	Gly	Phe	Thr	His
	3080					3085					3090			
Trp	Ser	Pro	Ile	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Ile	Val
	3095					3100					3105			
Asn	Leu	Gly	Thr	Ser	Gly	Ile	Pro	Pro	Ser	Leu	Pro	Glu	Thr	Thr
	3110					3115					3120			
Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile
	3125					3130					3135			
Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser	Arg
	3140					3145					3150			
Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Lys	Pro
	3155					3160					3165			
Leu	Phe	Arg	Asn	Ser	Ser	Leu	Glu	Tyr	Leu	Tyr	Ser	Gly	Cys	Arg
	3170					3175					3180			
Leu	Ala	Ser	Leu	Arg	Pro	Glu	Lys	Asp	Ser	Ser	Ala	Met	Ala	Val
	3185					3190					3195			
Asp	Ala	Ile	Cys	Thr	His	Arg	Pro	Asp	Pro	Glu	Asp	Leu	Gly	Leu
	3200					3205					3210			
Asp	Arg	Glu	Arg	Leu	Tyr	Trp	Glu	Leu	Ser	Asn	Leu	Thr	Asn	Gly
	3215					3220					3225			
Ile	Gln	Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asn	Ser	Leu	Tyr
	3230					3235					3240			
Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser	Phe	Leu	Thr	Thr	Ser	Thr
	3245					3250					3255			
Pro	Trp	Thr	Ser	Thr	Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Ser
	3260					3265					3270			
Pro	Val	Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro	Phe
	3275					3280					3285			
Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Glu	Asp	Met
	3290					3295					3300			

His Arg Pro Gly Ser Arg Arg Phe Asn Thr Thr Glu Arg Val Leu  
 3305 3310 3315  
 Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro  
 3320 3325 3330  
 Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln  
 3335 3340 3345  
 Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp  
 3350 3355 3360  
 Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
 3365 3370 3375  
 Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu  
 3380 3385 3390  
 Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser  
 3395 3400 3405  
 Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
 3410 3415 3420  
 Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val  
 3425 3430 3435  
 Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu  
 3440 3445 3450  
 His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn  
 3455 3460 3465  
 Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
 3470 3475 3480  
 Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu  
 3485 3490 3495  
 Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile  
 3500 3505 3510  
 Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu  
 3515 3520 3525  
 Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu  
 3530 3535 3540

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Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
 3545 3550 3555  
 Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr  
 3560 3565 3570  
 Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro  
 3575 3580 3585  
 Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn  
 3590 3595 3600  
 Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro  
 3605 3610 3615  
 Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln Gly Leu  
 3620 3625 3630  
 Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser  
 3635 3640 3645  
 Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala  
 3650 3655 3660  
 Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser  
 3665 3670 3675  
 Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu  
 3680 3685 3690  
 Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His  
 3695 3700 3705  
 Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr  
 3710 3715 3720  
 Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg  
 3725 3730 3735  
 Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu  
 3740 3745 3750  
 Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu  
 3755 3760 3765  
 Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
 3770 3775 3780

Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser  
 3785 3790 3795  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro  
 3800 3805 3810  
 Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr  
 3815 3820 3825  
 Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
 3830 3835 3840  
 Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro  
 3845 3850 3855  
 Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His  
 3860 3865 3870  
 Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val  
 3875 3880 3885  
 His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr  
 3890 3895 3900  
 Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile  
 3905 3910 3915  
 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg  
 3920 3925 3930  
 Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro  
 3935 3940 3945  
 Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
 3950 3955 3960  
 Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val  
 3965 3970 3975  
 Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu  
 3980 3985 3990  
 Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly  
 3995 4000 4005  
 Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr

4010						4015						4020		
Val	Asn	Gly	Phe	Thr	His	Arg	Thr	Ser	Val	Pro	Thr	Thr	Ser	Thr
4025						4030					4035			
Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Phe
4040						4045					4050			
Ser	Leu	Pro	Ser	Pro	Ala	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe
4055						4060					4065			
Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met
4070						4075					4080			
Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu
4085						4090					4095			
Gln	Thr	Leu	Leu	Gly	Pro	Met	Phe	Lys	Asn	Thr	Ser	Val	Gly	Leu
4100						4105					4110			
Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Ser	Glu	Lys	Asp
4115						4120					4125			
Gly	Ala	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys	Thr	His	Arg	Leu	Asp
4130						4135					4140			
Pro	Lys	Ser	Pro	Gly	Val	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu	Leu
4145						4150					4155			
Ser	Gln	Leu	Thr	Asn	Gly	Ile	Lys	Glu	Leu	Gly	Pro	Tyr	Thr	Leu
4160						4165					4170			
Asp	Arg	Asn	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Trp	Ile	Pro
4175						4180					4185			
Val	Pro	Thr	Ser	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu	Gly
4190						4195					4200			
Ser	Gly	Thr	Pro	Ser	Leu	Pro	Ser	Ser	Pro	Thr	Thr	Ala	Gly	Pro
4205						4210					4215			
Leu	Leu	Val	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Lys
4220						4225					4230			
Tyr	Glu	Glu	Asp	Met	His	Cys	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr
4235						4240					4245			

Thr Glu Arg Val Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn  
 4250 4255 4260  
 Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
 4265 4270 4275  
 Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys  
 4280 4285 4290  
 Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln  
 4295 4300 4305  
 Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu  
 4310 4315 4320  
 Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe  
 4325 4330 4335  
 Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser  
 4340 4345 4350  
 Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser  
 4355 4360 4365  
 Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe  
 4370 4375 4380  
 Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly  
 4385 4390 4395  
 Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu  
 4400 4405 4410  
 Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly  
 4415 4420 4425  
 Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr  
 4430 4435 4440  
 Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro  
 4445 4450 4455  
 Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr  
 4460 4465 4470  
 Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser  
 4475 4480 4485

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Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser  
4490 4495 4500

Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro  
4505 4510 4515

Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro  
4520 4525 4530

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp  
4535 4540 4545

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
4550 4555 4560

Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly  
4565 4570 4575

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys  
4580 4585 4590

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Val  
4595 4600 4605

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu  
4610 4615 4620

Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
4625 4630 4635

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr  
4640 4645 4650

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu  
4655 4660 4665

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala  
4670 4675 4680

Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
4685 4690 4695

Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe  
4700 4705 4710

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe  
4715 4720 4725

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr  
 4730 4735 4740  
 Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala  
 4745 4750 4755  
 Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg  
 4760 4765 4770  
 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
 4775 4780 4785  
 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
 4790 4795 4800  
 Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly  
 4805 4810 4815  
 Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa  
 4820 4825 4830  
 Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu  
 4835 4840 4845  
 Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa  
 4850 4855 4860  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 4865 4870 4875  
 Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr  
 4880 4885 4890  
 Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser  
 4895 4900 4905  
 Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu  
 4910 4915 4920  
 Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn  
 4925 4930 4935  
 Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 4940 4945 4950  
 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro



4955														
Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Val	Gly	Thr	Ser
4970						4975					4980			
Gly	Thr	Pro	Ser	Ser	Ser	Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu
4985						4990					4995			
Leu	Ile	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr
5000						5005					5010			
Gly	Glu	Asp	Met	Gly	His	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
5015						5020					5025			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Gly	Pro	Ile	Phe	Lys	Asn	Thr
5030						5035					5040			
Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg
5045						5050					5055			
Ser	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys	Ile
5060						5065					5070			
His	His	Leu	Asp	Pro	Lys	Ser	Pro	Gly	Leu	Asn	Arg	Glu	Arg	Leu
5075						5080					5085			
Tyr	Trp	Glu	Leu	Ser	Gln	Leu	Thr	Asn	Gly	Ile	Lys	Glu	Leu	Gly
5090						5095					5100			
Pro	Tyr	Thr	Leu	Asp	Arg	Asn	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr
5105						5110					5115			
His	Arg	Thr	Ser	Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr
5120						5125					5130			
Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Phe	Ser	Leu	Pro	Ser	Pro
5135						5140					5145			
Ala	Thr	Ala	Gly	Pro	Leu	Leu	Val	Leu	Phe	Thr	Leu	Asn	Phe	Thr
5150						5155					5160			
Ile	Thr	Asn	Leu	Lys	Tyr	Glu	Glu	Asp	Met	His	Arg	Pro	Gly	Ser
5165						5170					5175			
Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Thr	Leu	Leu	Gly
5180						5185					5190			

Pro	Met	Phe	Lys	Asn	Thr	Ser	Val	Gly	Leu	Leu	Tyr	Ser	Gly	Cys
	5195					5200					5205			
Arg	Leu	Thr	Leu	Leu	Arg	Ser	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly
	5210					5215					5220			
Val	Asp	Ala	Ile	Cys	Thr	His	Arg	Leu	Asp	Pro	Lys	Ser	Pro	Gly
	5225					5230					5235			
Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Xaa
	5240					5245					5250			
Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu
	5255					5260					5265			
Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Thr	Ser
	5270					5275					5280			
Thr	Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser	Gly	Thr	Pro
	5285					5290					5295			
Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro
	5300					5305					5310			
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa
	5315					5320					5325			
Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val
	5330					5335					5340			
Leu	Gln	Gly	Leu	Leu	Arg	Pro	Val	Phe	Lys	Asn	Thr	Ser	Val	Gly
	5345					5350					5355			
Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Lys	Lys
	5360					5365					5370			
Asp	Gly	Ala	Ala	Thr	Lys	Val	Asp	Ala	Ile	Cys	Thr	Tyr	Arg	Pro
	5375					5380					5385			
Asp	Pro	Lys	Ser	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu
	5390					5395					5400			
Leu	Ser	Gln	Leu	Thr	His	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr
	5405					5410					5415			
Gln	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser
	5420					5425					5430			

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Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu  
5435 5440 5445

Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro  
5450 5455 5460

Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn  
5465 5470 5475

Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
5480 5485 5490

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe  
5495 5500 5505

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr  
5510 5515 5520

Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr  
5525 5530 5535

Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg  
5540 5545 5550

Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr  
5555 5560 5565

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp  
5570 5575 5580

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
5585 5590 5595

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu  
5600 5605 5610

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu  
5615 5620 5625

Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His  
5630 5635 5640

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
5645 5650 5655

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr  
5660 5665 5670

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala  
 5675 5680 5685  
 Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr  
 5690 5695 5700  
 Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln  
 5705 5710 5715  
 Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 5720 5725 5730  
 Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro  
 5735 5740 5745  
 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser  
 5750 5755 5760  
 Gly Thr Pro Ser Ser Leu Pro Gly His Thr Thr Ala Gly Pro Leu  
 5765 5770 5775  
 Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr  
 5780 5785 5790  
 Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 5795 5800 5805  
 Glu Arg Val Leu Gln Ser Leu His Gly Pro Met Phe Lys Asn Thr  
 5810 5815 5820  
 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 5825 5830 5835  
 Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr  
 5840 5845 5850  
 His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Xaa Leu  
 5855 5860 5865  
 Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly  
 5870 5875 5880  
 Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa  
 5885 5890 5895  
 Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa

5900

5905

5910

Val	Xaa	Leu	Xaa	Thr	Ser	Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa
	5915					5920					5925			
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr
	5930					5935					5940			
Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser
	5945					5950					5955			
Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa
	5960					5965					5970			
Pro	Xaa	Phe	Lys	Xaa	Thr	Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys
	5975					5980					5985			
Arg	Leu	Thr	Leu	Leu	Arg	Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala	Thr	Xaa
	5990					5995					6000			
Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Asp	Pro	Xaa	Xaa	Pro	Gly
	6005					6010					6015			
Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Asn
	6020					6025					6030			
Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asp	Ser	Leu
	6035					6040					6045			
Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser	Met	Pro	Thr	Thr	Ser
	6050					6055					6060			
Ile	Pro	Gly	Thr	Ser	Ala	Val	His	Leu	Glu	Thr	Ser	Gly	Thr	Pro
	6065					6070					6075			
Ala	Ser	Leu	Pro	Gly	His	Thr	Ala	Pro	Gly	Pro	Leu	Leu	Val	Pro
	6080					6085					6090			
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Glu	Asp
	6095					6100					6105			
Met	Arg	His	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val
	6110					6115					6120			
Leu	Gln	Gly	Leu	Leu	Lys	Pro	Leu	Phe	Lys	Ser	Thr	Ser	Val	Gly
	6125					6130					6135			

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 6140 6145 6150  
 Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
 6155 6160 6165  
 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu  
 6170 6175 6180  
 Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa  
 6185 6190 6195  
 Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa  
 6200 6205 6210  
 Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu  
 6215 6220 6225  
 Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa  
 6230 6235 6240  
 Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 6245 6250 6255  
 Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe  
 6260 6265 6270  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe  
 6275 6280 6285  
 Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr  
 6290 6295 6300  
 Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa  
 6305 6310 6315  
 Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg  
 6320 6325 6330  
 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
 6335 6340 6345  
 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
 6350 6355 6360  
 Gly Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
 6365 6370 6375

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Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu
6380						6385					6390			
Pro	Gly	His	Thr	Ala	Pro	Val	Pro	Leu	Leu	Ile	Pro	Phe	Thr	Leu
6395						6400					6405			
Asn	Phe	Thr	Ile	Thr	Asn	Leu	His	Tyr	Glu	Glu	Asn	Met	Gln	His
6410						6415					6420			
Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly
6425						6430					6435			
Leu	Leu	Gly	Pro	Met	Phe	Lys	Asn	Thr	Ser	Val	Gly	Leu	Leu	Tyr
6440						6445					6450			
Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asn	Gly	Ala
6455						6460					6465			
Ala	Thr	Gly	Met	Asp	Ala	Ile	Cys	Ser	His	Arg	Leu	Asp	Pro	Lys
6470						6475					6480			
Ser	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa
6485						6490					6495			
Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg
6500						6505					6510			
Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
6515						6520					6525			
Xaa	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser
6530						6535					6540			
Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu
6545						6550					6555			
Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr
6560						6565					6570			
Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
6575						6580					6585			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr
6590						6595					6600			
Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg
6605						6610					6615			

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Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa  
 6620 6625 6630  
 Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu  
 6635 6640 6645  
 Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly  
 6650 6655 6660  
 Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr  
 6665 6670 6675  
 His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr  
 6680 6685 6690  
 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His  
 6695 6700 6705  
 Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr  
 6710 6715 6720  
 Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser  
 6725 6730 6735  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr  
 6740 6745 6750  
 Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
 6755 6760 6765  
 Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly  
 6770 6775 6780  
 Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly  
 6785 6790 6795  
 Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa  
 6800 6805 6810  
 Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu  
 6815 6820 6825  
 Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser  
 6830 6835 6840  
 Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro



6845

6850

6855

Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro
6860						6865					6870			
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa
6875						6880					6885			
Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val
6890						6895					6900			
Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr	Ser	Val	Gly
6905						6910					6915			
Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Xaa	Glu	Lys
6920						6925					6930			
Xaa	Xaa	Ala	Ala	Thr	Xaa	Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa
6935						6940					6945			
Asp	Pro	Xaa	Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu
6950						6955					6960			
Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa
6965						6970					6975			
Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser
6980						6985					6990			
Ser	Val	Pro	Thr	Thr	Ser	Ser	Pro	Gly	Thr	Ser	Thr	Val	His	Leu
6995						7000					7005			
Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu	Pro	Gly	His	Thr	Ala	Pro
7010						7015					7020			
Val	Pro	Leu	Leu	Ile	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn
7025						7030					7035			
Leu	His	Tyr	Glu	Glu	Asn	Met	Gln	His	Pro	Gly	Ser	Arg	Lys	Phe
7040						7045					7050			
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Lys	Pro	Leu	Phe
7055						7060					7065			
Lys	Ser	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr
7070						7075					7080			

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala  
 7085 7090 7095  
 Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg  
 7100 7105 7110  
 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
 7115 7120 7125  
 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
 7130 7135 7140  
 Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly  
 7145 7150 7155  
 Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa  
 7160 7165 7170  
 Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu  
 7175 7180 7185  
 Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa  
 7190 7195 7200  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 7205 7210 7215  
 Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr  
 7220 7225 7230  
 Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala  
 7235 7240 7245  
 Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa  
 7250 7255 7260  
 Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa  
 7265 7270 7275  
 Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg  
 7280 7285 7290  
 Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro  
 7295 7300 7305  
 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser  
 7310 7315 7320

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Gly	Thr	Pro	Ser	Ser	Leu	Pro	Gly	His	Thr	Ala	Pro	Val	Pro	Leu
	7325					7330					7335			
Leu	Ile	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr
	7340					7345					7350			
Glu	Glu	Asp	Met	His	Arg	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
	7355					7360					7365			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Ser	Pro	Ile	Phe	Lys	Asn	Ser
	7370					7375					7380			
Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg
	7385					7390					7395			
Pro	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly	Met	Asp	Ala	Val	Cys	Leu
	7400					7405					7410			
Tyr	His	Pro	Asn	Pro	Lys	Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu
	7415					7420					7425			
Tyr	Cys	Glu	Leu	Ser	Gln	Leu	Thr	His	Asn	Ile	Thr	Glu	Leu	Gly
	7430					7435					7440			
Pro	Tyr	Ser	Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr
	7445					7450					7455			
His	Gln	Asn	Ser	Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr
	7460					7465					7470			
Val	Tyr	Trp	Ala	Thr	Thr	Gly	Thr	Pro	Ser	Ser	Phe	Pro	Gly	His
	7475					7480					7485			
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr
	7490					7495					7500			
Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser
	7505					7510					7515			
Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa
	7520					7525					7530			
Pro	Xaa	Phe	Lys	Xaa	Thr	Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys
	7535					7540					7545			
Arg	Leu	Thr	Leu	Leu	Arg	Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala	Thr	Xaa
	7550					7555					7560			

Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly  
 7565 7570 7575  
 Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa  
 7580 7585 7590  
 Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu  
 7595 7600 7605  
 Tyr Val Asn Gly Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser  
 7610 7615 7620  
 Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro  
 7625 7630 7635  
 Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro  
 7640 7645 7650  
 Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 7655 7660 7665  
 Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val  
 7670 7675 7680  
 Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly  
 7685 7690 7695  
 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 7700 7705 7710  
 Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
 7715 7720 7725  
 Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu  
 7730 7735 7740  
 Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa  
 7745 7750 7755  
 Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa  
 7760 7765 7770  
 Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu  
 7775 7780 7785  
 Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa

7790

7795

7800

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
7805 7810 7815

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe  
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe  
7835 7840 7845

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr  
7850 7855 7860

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa  
7865 7870 7875

Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg  
7880 7885 7890

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
7895 7900 7905

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
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Gly Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr Pro Trp  
7925 7930 7935

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val  
7940 7945 7950

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu  
7955 7960 7965

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg  
7970 7975 7980

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
7985 7990 7995

Leu Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr  
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Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala  
8015 8020 8025

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Ser	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa
8045						8050					8055			
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Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
8075						8080					8085			
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Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu
8105						8110					8115			
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8120						8125					8130			
Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
8135						8140					8145			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr
8150						8155					8160			
Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg
8165						8170					8175			
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8180						8185					8190			
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Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly
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Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr
8225						8230					8235			
His	Trp	Ile	Pro	Val	Pro	Thr	Ser	Ser	Thr	Pro	Gly	Thr	Ser	Thr
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Asp	Ala	Ile	Cys	Ile	His	His	Leu	Asp	Pro	Lys	Ser	Pro	Gly	Leu
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Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Thr	Ser	Thr
	8390					8395					8400			
Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser	Gly	Thr	Pro	Xaa
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	8465					8470					8475			
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	8480					8485					8490			
Xaa	Ala	Ala	Thr	Xaa	Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Asp
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Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu  
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 Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn  
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 8645 8650 8655  
 Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu  
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 Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly  
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 Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr  
 8705 8710 8715  
 Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro  
 8720 8725 8730  
 Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn



8735						8740						8745
Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa Xaa Pro
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8765						8770					8775	
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8780						8785					8790	
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Thr	Pro	Ser	Ser	Leu	Pro	Gly	Pro	Thr	Ala	Thr	Gly	Pro Val Leu
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Val	Ser	Ser	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu Arg Pro
8945						8950					8955	
Glu	Lys	Asp	Gly	Ala	Ala	Thr	Arg	Val	Asp	Ala	Val	Cys Thr His
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 Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro  
 8990 8995 9000  
 Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His  
 9005 9010 9015  
 Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met  
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 Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile  
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 Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg  
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 Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro  
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Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asp
	9260					9265					9270			
Gly	Thr	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys	Thr	His	His	Pro	Asp
	9275					9280					9285			
Pro	Lys	Ser	Pro	Arg	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu	Leu
	9290					9295					9300			
Ser	Gln	Leu	Thr	His	Asn	Ile	Thr	Glu	Leu	Gly	His	Tyr	Ala	Leu
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Asp	Asn	Asp	Ser	Leu	Phe	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser
	9320					9325					9330			
Val	Ser	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Pro	Thr	Val	Tyr	Leu	Gly
	9335					9340					9345			
Ala	Ser	Lys	Thr	Pro	Ala	Ser	Ile	Phe	Gly	Pro	Ser	Ala	Ala	Ser
	9350					9355					9360			
His	Leu	Leu	Ile	Leu	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu
	9365					9370					9375			
Arg	Tyr	Glu	Glu	Asn	Met	Trp	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr
	9380					9385					9390			
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	9395					9400					9405			
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	9410					9415					9420			
Arg	Pro	Glu	Lys	Asp	Gly	Glu	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys
	9425					9430					9435			
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 Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe  
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 Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg  
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 Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr  
 9560 9565 9570  
 Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val  
 9575 9580 9585  
 Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly  
 9590 9595 9600  
 Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn  
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 Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr  
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 Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr  
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 His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln  
 9650 9655 9660  
 Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr  
 9665 9670 9675  
 Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys Ser

9680

9685

9690

Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg  
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 Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr  
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 Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu  
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 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly  
 9740 9745 9750  
 Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala  
 9755 9760 9765  
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Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys	
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Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg	
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Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr	
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His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp	
85 90 95	

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val	
100 105 110	

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu	
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115

Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn  
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Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu Arg  
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Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His  
165 170 175

Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val  
180 185 190

Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu  
195 200 205

Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp  
210 215 220

Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu  
225 230 235 240

Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Thr Gln His Phe Tyr  
245 250 255

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln  
260 265 270

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala  
275 280 285

Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp  
290 295 300

Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg His His Thr Gly  
305 310 315 320

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg  
325 330 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln  
340 345 350

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr  
355 360 365

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe  
 370 375 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr  
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Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu  
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Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr  
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Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly  
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Thr Glu Met Met Ile Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu  
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Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala  
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Leu Pro Arg Thr Thr Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr  
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 145 150 155 160  
 Thr Leu Asp Val Ser Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val  
 165 170 175  
 Ile His Pro Ala Glu Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn  
 180 185 190  
 Phe Phe His Ser Glu Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His  
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 Gly Ala Asp Val Ser Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu  
 210 215 220  
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 225 230 235 240  
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 245 250 255  
 Thr Thr Trp Leu Thr His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg  
 260 265 270  
 Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr Pro Ser Ile  
 275 280 285  
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 Val Ser Pro Gly Ala Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser  
 305 310 315 320  
 Gly Thr Asp Arg Asn Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly  
 325 330 335  
 Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr  
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 Val Thr Ser Met Val Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn  
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 Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu  
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Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser  
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Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser  
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His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr  
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Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu  
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Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala  
485 490 495  
Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser  
500 505 510  
Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu  
515 520 525  
Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser  
530 535 540  
His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val  
545 550 555 560  
Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser  
565 570 575  
Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr  
580 585 590  
Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro  
595 600 605  
Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser  
610 615 620  
Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro  
625 630 635 640  
Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu  
645 655

Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly  
660 665 670

Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr  
675 680 685

Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser  
690 695 700

Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val  
705 710 715 720

Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg  
725 730 735

Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu  
740 745 750

Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile  
755 760 765

Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val  
770 775 780

Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn  
785 790 795 800

Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala  
805 810 815

His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser  
820 825 830

Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu  
835 840 845

Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu  
850 855 860

Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser  
865 870 875 880

Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr  
885 890 895

Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr

900

Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr  
915 920 925

His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr  
930 935 940

Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly  
945 950 955 960

Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val  
965 970 975

Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser  
980 985 990

Ile Thr Ile Pro Thr Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr  
995 1000 1005

Thr Ser Phe Ile Thr Tyr Ser Glu Thr His Thr Ser Ser Ala Ile  
1010 1015 1020

Pro Thr Leu Pro Val Ser Pro Gly Ala Ser Lys Met Leu Thr Ser  
1025 1030 1035

Leu Val Ile Ser Ser Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr  
1040 1045 1050

Leu Thr Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu  
1055 1060 1065

Ile His Pro Ala Glu Thr Asn Thr Met Val Pro Arg Thr Thr Pro  
1070 1075 1080

Lys Phe Ser His Ser Lys Ser Asp Thr Thr Leu Pro Val Ala Ile  
1085 1090 1095

Thr Ser Pro Gly Pro Glu Ala Ser Ser Ala Val Ser Thr Thr Thr  
1100 1105 1110

Ile Ser Pro Asp Met Ser Asp Leu Val Thr Ser Leu Val Pro Ser  
1115 1120 1125

Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr  
1130 1135 1140

Pro Tyr Glu Pro Glu Thr Thr Ala Thr Trp Leu Thr His Pro Ala  
 1145 1150 1155  
 Glu Thr Ser Thr Thr Val Ser Gly Thr Ile Pro Asn Phe Ser His  
 1160 1165 1170  
 Arg Gly Ser Asp Thr Ala Pro Ser Met Val Thr Ser Pro Gly Val  
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 Asp Thr Arg Ser Gly Val Pro Thr Thr Thr Ile Pro Pro Ser Ile  
 1190 1195 1200  
 Pro Gly Val Val Thr Ser Gln Val Thr Ser Ser Ala Thr Asp Thr  
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 Ser Thr Ala Ile Pro Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu  
 1220 1225 1230  
 Thr Thr Ala Ser Ser Ala Thr His Pro Gly Thr Gln Thr Gly Phe  
 1235 1240 1245  
 Thr Val Pro Ile Arg Thr Val Pro Ser Ser Glu Pro Asp Thr Met  
 1250 1255 1260  
 Ala Ser Trp Val Thr His Pro Pro Gln Thr Ser Thr Pro Val Ser  
 1265 1270 1275  
 Arg Thr Thr Ser Ser Phe Ser His Ser Ser Pro Asp Ala Thr Pro  
 1280 1285 1290  
 Val Met Ala Thr Ser Pro Arg Thr Glu Ala Ser Ser Ala Val Leu  
 1295 1300 1305  
 Thr Thr Ile Ser Pro Gly Ala Pro Glu Met Val Thr Ser Gln Ile  
 1310 1315 1320  
 Thr Ser Ser Gly Ala Ala Thr Ser Thr Thr Val Pro Thr Leu Thr  
 1325 1330 1335  
 His Ser Pro Gly Met Pro Glu Thr Thr Ala Leu Leu Ser Thr His  
 1340 1345 1350  
 Pro Arg Thr Glu Thr Ser Lys Thr Phe Pro Ala Ser Thr Val Phe  
 1355 1360 1365  
 Pro Gln Val Ser Glu Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly  
 1370 1375 1380

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Ala	Glu	Thr	Ser	Thr	Ala	Leu	Pro	Thr	Gln	Thr	Thr	Ser	Ser	Leu
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Phe	Thr	Leu	Leu	Val	Thr	Gly	Thr	Ser	Arg	Val	Asp	Leu	Ser	Pro
	1400					1405					1410			
Thr	Ala	Ser	Pro	Gly	Val	Ser	Ala	Lys	Thr	Ala	Pro	Leu	Ser	Thr
	1415					1420					1425			
His	Pro	Gly	Thr	Glu	Thr	Ser	Thr	Met	Ile	Pro	Thr	Ser	Thr	Leu
	1430					1435					1440			
Ser	Leu	Gly	Leu	Leu	Glu	Thr	Thr	Gly	Leu	Leu	Ala	Thr	Ser	Ser
	1445					1450					1455			
Ser	Ala	Glu	Thr	Ser	Thr	Ser	Thr	Leu	Thr	Leu	Thr	Val	Ser	Pro
	1460					1465					1470			
Ala	Val	Ser	Gly	Leu	Ser	Ser	Ala	Ser	Ile	Thr	Thr	Asp	Lys	Pro
	1475					1480					1485			
Gln	Thr	Val	Thr	Ser	Trp	Asn	Thr	Glu	Thr	Ser	Pro	Ser	Val	Thr
	1490					1495					1500			
Ser	Val	Gly	Pro	Pro	Glu	Phe	Ser	Arg	Thr	Val	Thr	Gly	Thr	Thr
	1505					1510					1515			
Met	Thr	Leu	Ile	Pro	Ser	Glu	Met	Pro	Thr	Pro	Pro	Lys	Thr	Ser
	1520					1525					1530			
His	Gly	Glu	Gly	Val	Ser	Pro	Thr	Thr	Ile	Leu	Arg	Thr	Thr	Met
	1535					1540					1545			
Val	Glu	Ala	Thr	Asn	Leu	Ala	Thr	Thr	Gly	Ser	Ser	Pro	Thr	Val
	1550					1555					1560			
Ala	Lys	Thr	Thr	Thr	Thr	Phe	Asn	Thr	Leu	Ala	Gly	Ser	Leu	Phe
	1565					1570					1575			
Thr	Pro	Leu	Thr	Thr	Pro	Gly	Met	Ser	Thr	Leu	Ala	Ser	Glu	Ser
	1580					1585					1590			
Val	Thr	Ser	Arg	Thr	Ser	Tyr	Asn	His	Arg	Ser	Trp	Ile	Ser	Thr
	1595					1600					1605			
Thr	Ser	Ser	Tyr	Asn	Arg	Arg	Tyr	Trp	Thr	Pro	Ala	Thr	Ser	Thr
	1610					1615					1620			

Pro Val Thr Ser Thr Phe Ser Pro Gly Ile Ser Thr Ser Ser Ile  
1625 1630 1635

Pro Ser Ser Thr Ala Ala Thr Val Pro Phe Met Val Pro Phe Thr  
1640 1645 1650

Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg  
1655 1660 1665

His Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln  
1670 1675 1680

Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu  
1685 1690 1695

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser  
1700 1705 1710

Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro  
1715 1720 1725

Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser  
1730 1735 1740

Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp  
1745 1750 1755

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met  
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Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr  
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Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr  
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<400> 150

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Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
50 55 60

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr  
65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr  
85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr  
100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser  
115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
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Thr Ser Gly Thr Pro Ser Ser Leu Pro Lys Leu Thr  
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<400> 151  
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1 5 10 15

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Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr  
20 25 30

aac ctg cat tat gag gaa aac atg caa cac cct ggt tcc agg aag ttc 144  
Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
35 40 45

aac acc acg gag agg gtt ctg cag ggt ctg ctc aag ccc ttg ttc aag 192  
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
50 55 60

aac acc agt gtt ggc cct ctg tac tct ggc tgc aga ctg acc ttg ctc 240  
Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
65 70 75 80 85 90 95



65		70		75		80	
aga cct gag aag cat gag gca gcc act gga gtg gac acc atc tgt acc	Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr	85	90	95	288		
cac cgc gtt gat ccc atc gga cct gga ctg gac aga gag cgg cta tac	His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr	100	105	110	336		
tgg gag ctg agc cag ctg acc aac agc atc aca gag ctg gga ccc tac	Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr	115	120	125	384		
acc ctg gac agg gac agt ctc tat gtc aat ggc ttc aac cct cgg agc	Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser	130	135	140	432		
tct gtg cca acc acc agc act cct ggg acc tcc aca gtg cac ctg gca	Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala	145	150	155	480		
acc tct ggg act cca tcc tcc ctg cct	Thr Ser Gly Thr Pro Ser Ser Leu Pro	165			507		

<210> 152  
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 <213> Homo sapiens

<400> 152

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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys	50 55 60
Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu	65 70 75 80
Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr	85 90 95
His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr	100 105 110
Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr	

115

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser  
130 135 140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
145 150 155 160

Thr Ser Gly Thr Pro Ser Ser Leu Pro  
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<210> 153  
<211> 507  
<212> DNA  
<213> Homo sapiens

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ggtgtagggc cccagctctg tgatgctgtt ggtcagctgg ctcagctccc agtatagccg 180  
ctctctgtcc agtccaggctc cgatgggatc aacgcggtgg gtacagatgg tgtccactcc 240  
agtggctgcc tcatgcttct caggtctgag caaggtcagt ctgcagccag agtacagagg 300  
gccaacactg gtgttcttga acaagggctt gagcagacc tgcagaacc tctccgtggt 360  
gttgaacttc ctggaaccag ggtgttgcac gttttcctca taatgcaggt tggatgatgg 420  
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atggtgatgg tgatgcgac ctctcat 507

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<400> 154  
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<210> 155  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 155  
Thr Leu Asp Arg Asp Ser Leu Tyr Val  
1 5

<210> 156

<211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 156

Val Leu Gln Gly Leu Leu Lys Pro Leu  
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<210> 157  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 157

Gln Leu Thr Asn Ser Ile Thr Glu Leu  
 1 5

<210> 158  
 <211> 780  
 <212> PRT  
 <213> Homo sapiens

<400> 158

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
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Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg  
 35 40 45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu  
 50 55 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr  
 65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr  
 85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr  
 100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser  
 115 120 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly  
 130 135 140

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Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro  
 145 150 155 160  
 Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr  
 165 170 175  
 Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu  
 180 185 190  
 Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val  
 195 200 205  
 Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 210 215 220  
 Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp  
 225 230 235 240  
 Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser  
 245 250 255  
 Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 260 265 270  
 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr  
 275 280 285  
 Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr  
 290 295 300  
 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val  
 305 310 315 320  
 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp  
 325 330 335  
 Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu  
 340 345 350  
 Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu  
 355 360 365  
 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala  
 370 375 380  
 Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser  
 385 390 395 400

Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr  
405 410 415

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
420 425 430

Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr  
435 440 445

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser  
450 455 460

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu  
465 470 475 480

Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro  
485 490 495

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu  
500 505 510

Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys  
515 520 525

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val  
530 535 540

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp  
545 550 555 560

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys  
565 570 575

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
580 585 590

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser  
595 600 605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr  
610 615 620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
625 630 635 640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe

645

650

655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys  
 660 665 670

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
 675 680 685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr  
 690 695 700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr  
 705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr  
 725 730 735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr  
 740 745 750

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly  
 755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr  
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<210> 159  
 <211> 780  
 <212> PRT  
 <213> Homo sapiens

<400> 159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys  
 35 40 45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
 50 55 60

Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser  
 65 70 75 80

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr  
 Page 194

Trp Glu Leu Ser<sub>100</sub> Gln Leu Thr His Gly<sub>105</sub> Ile Lys Glu Leu Gly<sub>110</sub> Pro Tyr  
 Thr Leu Asp<sub>115</sub> Arg Asn Ser Leu Tyr<sub>120</sub> Val Asn Gly Phe Thr<sub>125</sub> His Arg Ser  
 Ser Val<sub>130</sub> Ala Pro Thr Ser Thr<sub>135</sub> Pro Gly Thr Ser Thr<sub>140</sub> Val Asp Leu Gly  
 Thr Ser Gly Thr Pro Ser<sub>150</sub> Ser Leu Pro Ser Pro<sub>155</sub> Thr Thr Ala Val Pro<sub>160</sub>  
 Leu Leu Val Pro Phe<sub>165</sub> Thr Leu Asn Phe Thr<sub>170</sub> Ile Thr Asn Leu Gln Tyr<sub>175</sub>  
 Gly Glu Asp Met<sub>180</sub> Arg His Pro Gly Ser<sub>185</sub> Arg Lys Phe Asn Thr<sub>190</sub> Thr Glu  
 Arg Val Leu<sub>195</sub> Gln Gly Leu Leu Gly<sub>200</sub> Pro Leu Phe Lys Asn<sub>205</sub> Ser Ser Val  
 Gly Pro<sub>210</sub> Leu Tyr Ser Gly Cys<sub>215</sub> Arg Leu Ile Ser Leu<sub>220</sub> Arg Ser Glu Lys  
 Asp Gly Ala Ala Thr Gly<sub>230</sub> Val Asp Ala Ile Cys<sub>235</sub> Thr His His Leu Asn<sub>240</sub>  
 Pro Gln Ser Pro Gly<sub>245</sub> Leu Asp Arg Glu Gln<sub>250</sub> Leu Tyr Trp Gln Leu Ser<sub>255</sub>  
 Gln Met Thr Asn<sub>260</sub> Gly Ile Lys Glu Leu<sub>265</sub> Gly Pro Tyr Thr Leu<sub>270</sub> Asp Arg  
 Asn Ser Leu<sub>275</sub> Tyr Val Asn Gly Phe<sub>280</sub> Thr His Arg Ser Ser<sub>285</sub> Gly Leu Thr  
 Thr Ser<sub>290</sub> Thr Pro Trp Thr Ser<sub>295</sub> Thr Val Asp Leu Gly<sub>300</sub> Thr Ser Gly Thr  
 Pro Ser Pro Val Pro Ser<sub>310</sub> Pro Thr Thr Ala Gly<sub>315</sub> Pro Leu Leu Val Pro<sub>320</sub>  
 Phe Thr Leu Asn Phe<sub>325</sub> Thr Ile Thr Asn Leu<sub>330</sub> Gln Tyr Glu Glu Asp<sub>335</sub> Met

His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln  
 340 345 350  
 Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr  
 355 360 365  
 Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala  
 370 375 380  
 Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro  
 385 390 395 400  
 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His  
 405 410 415  
 Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr  
 420 425 430  
 Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro  
 435 440 445  
 Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe  
 450 455 460  
 Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn  
 465 470 475 480  
 Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly  
 485 490 495  
 Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys  
 500 505 510  
 Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
 515 520 525  
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 530 535 540  
 Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg  
 545 550 555 560  
 Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu  
 565 570 575  
 Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe  
 580 585 590



Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr  
595 600 605

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr  
610 615 620

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr  
625 630 635 640

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
645 650 655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
660 665 670

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
675 680 685

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr  
690 695 700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr  
705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr  
725 730 735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser  
740 745 750

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr  
770 775 780

<210> 160  
<211> 624  
<212> PRT  
<213> Homo sapiens

<400> 160

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
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Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe  
20 25 30

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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys  
35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
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Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr  
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His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr  
85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr  
100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser  
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Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro  
145 150 155 160

Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu His Tyr  
165 170 175

Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
180 185 190

Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val  
195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
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His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp  
225 230 235 240

Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser  
245 250 255

Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
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Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr  
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Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr  
290 295 300

Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro  
305 310 315 320

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met  
325 330 335

Arg His Pro Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln  
340 345 350

Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr  
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Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala  
370 375 380

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro  
385 390 395 400

Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His  
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Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr  
420 425 430

Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro  
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Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu  
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Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn  
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Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly  
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Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg  
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Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg  
515 520 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp

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535

540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg  
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Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu  
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Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe  
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Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
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Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr  
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His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr  
 85 90 95

Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr  
 100 105 110

Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser  
 115 120 125

Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala  
 Page 200

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135

140

Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro  
 145 150 155 160

Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr  
 165 170 175

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
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Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val  
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Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys  
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Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp  
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Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser  
 245 250 255

Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg  
 260 265 270

Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr  
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Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr  
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Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met  
 325 330 335

Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln  
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Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr  
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Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala  
 370 375 380

Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro  
385 390 395 400

Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His  
405 410 415

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe  
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Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr  
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Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu  
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Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile  
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Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu  
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130 135 140

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Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser  
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Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr  
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Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr  
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Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr  
245 250 255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe  
260 265 270

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly  
275 280 285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala  
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Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile  
325 330 335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro  
340 345 350

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val  
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360

365

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Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser  
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Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser  
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Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val  
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Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile  
450 455 460

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465 470 475 480

Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr  
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500 505 510

Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly  
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Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala  
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Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr  
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Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr  
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Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu  
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Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn  
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Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser  
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Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val  
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Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro  
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Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser  
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 Val Ser Gly Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr  
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 Ala Pro Ser Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly  
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1345

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Thr Ser Thr Met Ile Pro Thr Ser Thr Leu Ser Leu Gly Leu Leu  
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Glu Thr Thr Gly Leu Leu Ala Thr Ser Ser Ser Ala Glu Thr Ser  
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Trp Asn Thr Glu Thr Ser Pro Ser Val Thr Ser Val Gly Pro Pro  
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 Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile  
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 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg  
 1655 1660 1665  
 Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro  
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 Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val  
 1700 1705 1710  
 Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu  
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 Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly  
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 Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr  
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 Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr  
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 Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser  
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2285

2290

2295

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Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu	Pro	Ser	Pro
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Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Glu	Asp	Met	Arg	His	Pro	Gly	Ser
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Ile	Cys	Thr	His	His	Leu	Asn	Pro	Gln	Ser	Pro	Gly	Leu	Asp	Arg
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Glu	Gln	Leu	Tyr	Trp	Gln	Leu	Ser	Gln	Met	Thr	Asn	Gly	Ile	Lys
	2825					2830					2835			
Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asn	Ser	Leu	Tyr	Val	Asn
	2840					2845					2850			
Gly	Phe	Thr	His	Arg	Ser	Ser	Gly	Leu	Thr	Thr	Ser	Thr	Pro	Trp
	2855					2860					2865			
Thr	Ser	Thr	Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Ser	Pro	Val
	2870					2875					2880			
Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro	Phe	Thr	Leu
	2885					2890					2895			
Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Glu	Asp	Met	His	Arg
	2900					2905					2910			
Pro	Gly	Ser	Arg	Lys	Phe	Asn	Ala	Thr	Glu	Arg	Val	Leu	Gln	Gly
	2915					2920					2925			
Leu	Leu	Ser	Pro	Ile	Phe	Lys	Asn	Ser	Ser	Val	Gly	Pro	Leu	Tyr
	2930					2935					2940			
Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg	Pro	Glu	Lys	Asp	Gly	Ala
	2945					2950					2955			
Ala	Thr	Gly	Met	Asp	Ala	Val	Cys	Leu	Tyr	His	Pro	Asn	Pro	Lys
	2960					2965					2970			
Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu	Leu	Ser	Gln
	2975					2980					2985			
Leu	Thr	His	Asn	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Ser	Leu	Asp	Arg
	2990					2995					3000			

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro  
 3005 3010 3015  
 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr  
 3020 3025 3030  
 Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu  
 3035 3040 3045  
 Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr  
 3050 3055 3060  
 Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 3065 3070 3075  
 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr  
 3080 3085 3090  
 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg  
 3095 3100 3105  
 Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu  
 3110 3115 3120  
 Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu  
 3125 3130 3135  
 Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly  
 3140 3145 3150  
 Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr  
 3155 3160 3165  
 His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr  
 3170 3175 3180  
 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His  
 3185 3190 3195  
 Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr  
 3200 3205 3210  
 Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser  
 3215 3220 3225  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys  
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3230

3235

3240

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
 3245 3250 3255

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala Ala Thr Gly  
 3260 3265 3270

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly  
 3275 3280 3285

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn  
 3290 3295 3300

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu  
 3305 3310 3315

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser  
 3320 3325 3330

Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro  
 3335 3340 3345

Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro  
 3350 3355 3360

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn  
 3365 3370 3375

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
 3380 3385 3390

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly  
 3395 3400 3405

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 3410 3415 3420

His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
 3425 3430 3435

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu  
 3440 3445 3450

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa  
 3455 3460 3465

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa  
 3470 3475 3480  
 Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu  
 3485 3490 3495  
 Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Ser Ala  
 3500 3505 3510  
 Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 3515 3520 3525  
 Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe  
 3530 3535 3540  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe  
 3545 3550 3555  
 Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr  
 3560 3565 3570  
 Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala  
 3575 3580 3585  
 Ile Cys Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg  
 3590 3595 3600  
 Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys  
 3605 3610 3615  
 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn  
 3620 3625 3630  
 Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly  
 3635 3640 3645  
 Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu  
 3650 3655 3660  
 Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu  
 3665 3670 3675  
 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His  
 3680 3685 3690  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 3695 3700 3705

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Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr  
 3710 3715 3720  
 Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala  
 3725 3730 3735  
 Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln  
 3740 3745 3750  
 Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln  
 3755 3760 3765  
 Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 3770 3775 3780  
 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu  
 3785 3790 3795  
 Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser  
 3800 3805 3810  
 Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu  
 3815 3820 3825  
 Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr  
 3830 3835 3840  
 Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr  
 3845 3850 3855  
 Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser  
 3860 3865 3870  
 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg  
 3875 3880 3885  
 Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu  
 3890 3895 3900  
 Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu  
 3905 3910 3915  
 Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly  
 3920 3925 3930  
 Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr  
 3935 3940 3945

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His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr  
3950 3955 3960

Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro  
3965 3970 3975

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr  
3980 3985 3990

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser  
3995 4000 4005

Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu Lys  
4010 4015 4020

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
4025 4030 4035

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly  
4040 4045 4050

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly  
4055 4060 4065

Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn  
4070 4075 4080

Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu  
4085 4090 4095

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser  
4100 4105 4110

Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro  
4115 4120 4125

Ser Ser Leu Ser Ser Pro Thr Ile Met Xaa Xaa Xaa Pro Leu Leu  
4130 4135 4140

Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu  
4145 4150 4155

Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
4160 4165 4170

Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser

4175

4180

4185

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro  
 4190 4195 4200

Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr  
 4205 4210 4215

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
 4220 4225 4230

Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro  
 4235 4240 4245

Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly Phe Asn Pro  
 4250 4255 4260

Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val  
 4265 4270 4275

His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr  
 4280 4285 4290

Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile  
 4295 4300 4305

Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg  
 4310 4315 4320

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro  
 4325 4330 4335

Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg  
 4340 4345 4350

Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val  
 4355 4360 4365

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu  
 4370 4375 4380

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly  
 4385 4390 4395

Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr  
 4400 4405 4410



Val Asn Gly Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr  
 4415 4420 4425  
 Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser  
 4430 4435 4440  
 Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe  
 4445 4450 4455  
 Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met  
 4460 4465 4470  
 His Arg Pro Gly Ser Arg Arg Phe Asn Thr Thr Glu Arg Val Leu  
 4475 4480 4485  
 Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro  
 4490 4495 4500  
 Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln  
 4505 4510 4515  
 Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp  
 4520 4525 4530  
 Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu  
 4535 4540 4545  
 Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu  
 4550 4555 4560  
 Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser  
 4565 4570 4575  
 Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala  
 4580 4585 4590  
 Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val  
 4595 4600 4605  
 Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu  
 4610 4615 4620  
 His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn  
 4625 4630 4635  
 Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys  
 4640 4645 4650

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Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu  
4655 4660 4665

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile  
4670 4675 4680

Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu  
4685 4690 4695

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu  
4700 4705 4710

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
4715 4720 4725

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr  
4730 4735 4740

Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro  
4745 4750 4755

Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn  
4760 4765 4770

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro  
4775 4780 4785

Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln Gly Leu  
4790 4795 4800

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser  
4805 4810 4815

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala  
4820 4825 4830

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser  
4835 4840 4845

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu  
4850 4855 4860

Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His  
4865 4870 4875

Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr  
4880 4885 4890

Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg  
 4895 4900 4905  
 Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu  
 4910 4915 4920  
 Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu  
 4925 4930 4935  
 Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu  
 4940 4945 4950  
 Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser  
 4955 4960 4965  
 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro  
 4970 4975 4980  
 Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr  
 4985 4990 4995  
 Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
 5000 5005 5010  
 Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro  
 5015 5020 5025  
 Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His  
 5030 5035 5040  
 Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val  
 5045 5050 5055  
 His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr  
 5060 5065 5070  
 Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile  
 5075 5080 5085  
 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg  
 5090 5095 5100  
 Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro  
 5105 5110 5115  
 Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg

5120		5125		5130	
Leu Thr	Leu Leu Arg Pro	Glu Lys Arg Gly Ala	Ala Thr Gly Val		
5135		5140	5145		
Asp Thr	Ile Cys Thr His	Arg Leu Asp Pro Leu	Asn Pro Gly Leu		
5150		5155	5160		
Asp Arg	Glu Gln Leu Tyr	Trp Glu Leu Ser Lys	Leu Thr Arg Gly		
5165		5170	5175		
Ile Ile	Glu Leu Gly Pro	Tyr Leu Leu Asp Arg	Gly Ser Leu Tyr		
5180		5185	5190		
Val Asn	Gly Phe Thr His	Arg Thr Ser Val Pro	Thr Thr Ser Thr		
5195		5200	5205		
Pro Gly	Thr Ser Thr Val	Asp Leu Gly Thr Ser	Gly Thr Pro Phe		
5210		5215	5220		
Ser Leu	Pro Ser Pro Ala	Xaa Xaa Xaa Pro Leu	Leu Xaa Pro Phe		
5225		5230	5235		
Thr Leu	Asn Phe Thr Ile	Thr Asn Leu Xaa Tyr	Glu Glu Xaa Met		
5240		5245	5250		
Xaa Xaa	Pro Gly Ser Arg	Lys Phe Asn Thr Thr	Glu Arg Val Leu		
5255		5260	5265		
Gln Thr	Leu Leu Gly Pro	Met Phe Lys Asn Thr	Ser Val Gly Leu		
5270		5275	5280		
Leu Tyr	Ser Gly Cys Arg	Leu Thr Leu Leu Arg	Ser Glu Lys Asp		
5285		5290	5295		
Gly Ala	Ala Thr Gly Val	Asp Ala Ile Cys Thr	His Arg Leu Asp		
5300		5305	5310		
Pro Lys	Ser Pro Gly Val	Asp Arg Glu Gln Leu	Tyr Trp Glu Leu		
5315		5320	5325		
Ser Gln	Leu Thr Asn Gly	Ile Lys Glu Leu Gly	Pro Tyr Thr Leu		
5330		5335	5340		
Asp Arg	Asn Ser Leu Tyr	Val Asn Gly Phe Thr	His Trp Ile Pro		
5345		5350	5355		

Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly  
 5360 5365 5370  
 Ser Gly Thr Pro Ser Leu Pro Ser Ser Pro Thr Thr Ala Gly Pro  
 5375 5380 5385  
 Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys  
 5390 5395 5400  
 Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr  
 5405 5410 5415  
 Thr Glu Arg Val Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn  
 5420 5425 5430  
 Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu  
 5435 5440 5445  
 Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys  
 5450 5455 5460  
 Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln  
 5465 5470 5475  
 Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu  
 5480 5485 5490  
 Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe  
 5495 5500 5505  
 Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser  
 5510 5515 5520  
 Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser  
 5525 5530 5535  
 Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe  
 5540 5545 5550  
 Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly  
 5555 5560 5565  
 Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu  
 5570 5575 5580  
 Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly  
 5585 5590 5595

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Cys	Arg	Leu	Thr	Leu	Leu	Arg	Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala	Thr
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Xaa	Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Asp	Pro	Xaa	Xaa	Pro
	5615					5620					5625			
Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr
	5630					5635					5640			
Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser
	5645					5650					5655			
Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Trp	Ile	Pro	Val	Pro	Thr	Ser
	5660					5665					5670			
Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu	Gly	Ser	Gly	Thr	Pro
	5675					5680					5685			
Ser	Ser	Leu	Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro
	5690					5695					5700			
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Lys	Tyr	Glu	Glu	Asp
	5705					5710					5715			
Met	His	Cys	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val
	5720					5725					5730			
Leu	Gln	Ser	Leu	Leu	Gly	Pro	Met	Phe	Lys	Asn	Thr	Ser	Val	Gly
	5735					5740					5745			
Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg	Ser	Glu	Lys
	5750					5755					5760			
Asp	Gly	Ala	Ala	Thr	Gly	Val	Asp	Ala	Ile	Cys	Thr	His	Arg	Val
	5765					5770					5775			
Asp	Pro	Lys	Ser	Pro	Gly	Val	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu
	5780					5785					5790			
Leu	Ser	Gln	Leu	Thr	Asn	Gly	Ile	Lys	Glu	Leu	Gly	Pro	Tyr	Thr
	5795					5800					5805			
Leu	Asp	Arg	Asn	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Gln	Thr
	5810					5815					5820			
Ser	Ala	Pro	Asn	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu
	5825					5830					5835			

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala  
 5840 5845 5850  
 Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 5855 5860 5865  
 Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe  
 5870 5875 5880  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe  
 5885 5890 5895  
 Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr  
 5900 5905 5910  
 Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala  
 5915 5920 5925  
 Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg  
 5930 5935 5940  
 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
 5945 5950 5955  
 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
 5960 5965 5970  
 Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly  
 5975 5980 5985  
 Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa  
 5990 5995 6000  
 Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu  
 6005 6010 6015  
 Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa  
 6020 6025 6030  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 6035 6040 6045  
 Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr  
 6050 6055 6060  
 Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser  
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6065

6070

6075

Ala Met 6080	Ala Val	Asp Ala	Ile 6085	Cys Thr His Arg	Pro 6090	Asp Pro Glu
Asp Leu 6095	Gly Leu	Asp Arg	Glu 6100	Arg Leu Tyr Trp	Glu 6105	Leu Ser Asn
Leu Thr 6110	Asn Gly	Ile Gln	Glu 6115	Leu Gly Pro Tyr	Thr 6120	Leu Asp Arg
Asn Ser 6125	Leu Tyr Val	Asn	Gly 6130	Phe Thr His Arg	Ser 6135	Ser Met Pro
Thr Thr 6140	Ser Thr	Pro Gly	Thr 6145	Ser Thr Val Asp	Val 6150	Gly Thr Ser
Gly Thr 6155	Pro Ser	Ser Ser	Pro 6160	Ser Pro Thr Thr	Ala 6165	Gly Pro Leu
Leu Ile 6170	Pro Phe Thr	Leu	Asn 6175	Phe Thr Ile Thr	Asn 6180	Leu Gln Tyr
Gly Glu 6185	Asp Met	Gly His	Pro 6190	Gly Ser Arg Lys	Phe 6195	Asn Thr Thr
Glu Arg 6200	Val Leu	Gln Gly	Leu 6205	Leu Gly Pro Ile	Phe 6210	Lys Asn Thr
Ser Val 6215	Gly Pro	Leu Tyr	Ser 6220	Gly Cys Arg Leu	Thr 6225	Ser Leu Arg
Ser Glu 6230	Lys Asp	Gly Ala	Ala 6235	Thr Gly Val Asp	Ala 6240	Ile Cys Ile
His His 6245	Leu Asp	Pro Lys	Ser 6250	Pro Gly Leu Asn	Arg 6255	Glu Arg Leu
Tyr Trp 6260	Glu Leu	Ser Gln	Leu 6265	Thr Asn Gly Ile	Lys 6270	Glu Leu Gly
Pro Tyr 6275	Thr Leu	Asp Arg	Asn 6280	Ser Leu Tyr Val	Asn 6285	Gly Phe Thr
His Arg 6290	Thr Ser	Val Pro	Thr 6295	Thr Ser Thr Pro	Gly 6300	Thr Ser Thr



Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser Leu Pro Ser Pro  
 6305 6310 6315  
 Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr  
 6320 6325 6330  
 Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser  
 6335 6340 6345  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu Gly  
 6350 6355 6360  
 Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys  
 6365 6370 6375  
 Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly  
 6380 6385 6390  
 Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly  
 6395 6400 6405  
 Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa  
 6410 6415 6420  
 Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu  
 6425 6430 6435  
 Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser  
 6440 6445 6450  
 Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro  
 6455 6460 6465  
 Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro  
 6470 6475 6480  
 Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa  
 6485 6490 6495  
 Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
 6500 6505 6510  
 Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly  
 6515 6520 6525  
 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys  
 6530 6535 6540

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Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro  
 6545 6550 6555  
 Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu  
 6560 6565 6570  
 Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
 6575 6580 6585  
 Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser  
 6590 6595 6600  
 Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu  
 6605 6610 6615  
 Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro  
 6620 6625 6630  
 Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn  
 6635 6640 6645  
 Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 6650 6655 6660  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe  
 6665 6670 6675  
 Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr  
 6680 6685 6690  
 Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr  
 6695 6700 6705  
 Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg  
 6710 6715 6720  
 Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr  
 6725 6730 6735  
 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp  
 6740 6745 6750  
 Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
 6755 6760 6765  
 Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu  
 6770 6775 6780

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu  
 6785 6790 6795  
 Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His  
 6800 6805 6810  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 6815 6820 6825  
 Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr  
 6830 6835 6840  
 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala  
 6845 6850 6855  
 Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr  
 6860 6865 6870  
 Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln  
 6875 6880 6885  
 Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg  
 6890 6895 6900  
 Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro  
 6905 6910 6915  
 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser  
 6920 6925 6930  
 Gly Thr Pro Ser Ser Leu Pro Gly His Thr Thr Ala Gly Pro Leu  
 6935 6940 6945  
 Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr  
 6950 6955 6960  
 Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 6965 6970 6975  
 Glu Arg Val Leu Gln Ser Leu His Gly Pro Met Phe Lys Asn Thr  
 6980 6985 6990  
 Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 6995 7000 7005  
 Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr

7010						7015						7020
His	Arg	Leu	Asp	Pro	Lys	Ser	Pro	Gly	Leu	Asp	Arg	Glu
7025						7030					7035	Xaa
												Leu
Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu
7040						7045					7050	Leu
												Gly
Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly
7055						7060					7065	Phe
												Xaa
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Thr	Ser	Thr	Pro	Gly	Thr
7070						7075					7080	Ser
												Xaa
Val	Xaa	Leu	Xaa	Thr	Ser	Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro
7085						7090					7095	Xaa
												Xaa
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn
7100						7105					7110	Phe
												Thr
Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa	Xaa	Pro
7115						7120					7125	Gly
												Ser
Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu
7130						7135					7140	Leu
												Xaa
Pro	Xaa	Phe	Lys	Xaa	Thr	Ser	Val	Gly	Xaa	Leu	Tyr	Ser
7145						7150					7155	Gly
												Cys
Arg	Leu	Thr	Leu	Leu	Arg	Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala
7160						7165					7170	Thr
												Xaa
Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Asp	Pro	Xaa	Xaa
7175						7180					7185	Pro
												Gly
Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa	Leu
7190						7195					7200	Thr
												Asn
Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg	Asp
7205						7210					7215	Ser
												Leu
Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser	Met	Pro	Thr
7220						7225					7230	Thr
												Ser
Ile	Pro	Gly	Thr	Ser	Ala	Val	His	Leu	Glu	Thr	Ser	Gly
7235						7240					7245	Thr
												Pro

Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro  
 7250 7255 7260  
 Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 7265 7270 7275  
 Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val  
 7280 7285 7290  
 Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly  
 7295 7300 7305  
 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 7310 7315 7320  
 Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu  
 7325 7330 7335  
 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu  
 7340 7345 7350  
 Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa  
 7355 7360 7365  
 Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa  
 7370 7375 7380  
 Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu  
 7385 7390 7395  
 Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa  
 7400 7405 7410  
 Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 7415 7420 7425  
 Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe  
 7430 7435 7440  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe  
 7445 7450 7455  
 Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr  
 7460 7465 7470  
 Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa  
 7475 7480 7485

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Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg  
7490 7495 7500

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
7505 7510 7515

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
7520 7525 7530

Gly Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly  
7535 7540 7545

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu  
7550 7555 7560

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu  
7565 7570 7575

Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His  
7580 7585 7590

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
7595 7600 7605

Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr  
7610 7615 7620

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala  
7625 7630 7635

Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys  
7640 7645 7650

Ser Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa  
7655 7660 7665

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg  
7670 7675 7680

Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
7685 7690 7695

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser  
7700 7705 7710

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu  
7715 7720 7725

Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr  
 7730 7735 7740  
 Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr  
 7745 7750 7755  
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 7760 7765 7770  
 Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg  
 7775 7780 7785  
 Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa  
 7790 7795 7800  
 Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu  
 7805 7810 7815  
 Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly  
 7820 7825 7830  
 Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr  
 7835 7840 7845  
 His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr  
 7850 7855 7860  
 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His  
 7865 7870 7875  
 Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr  
 7880 7885 7890  
 Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser  
 7895 7900 7905  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr  
 7910 7915 7920  
 Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys  
 7925 7930 7935  
 Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly  
 7940 7945 7950  
 Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly

7955						7960						7965
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	7970					7975					7980	
Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa Ser Leu
	7985					7990					7995	
Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa Thr Ser
	8000					8005					8010	
Thr	Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser	Gly Thr Pro
	8015					8020					8025	
Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu Xaa Pro
	8030					8035					8040	
Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu Glu Xaa
	8045					8050					8055	
Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu Arg Val
	8060					8065					8070	
Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr	Ser Val Gly
	8075					8080					8085	
Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Xaa Glu Lys
	8090					8095					8100	
Xaa	Xaa	Ala	Ala	Thr	Xaa	Val	Asp	Xaa	Xaa	Cys	Xaa	Xaa Xaa Xaa
	8105					8110					8115	
Asp	Pro	Xaa	Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr Trp Glu
	8120					8125					8130	
Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro Tyr Xaa
	8135					8140					8145	
Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His Arg Ser
	8150					8155					8160	
Ser	Val	Pro	Thr	Thr	Ser	Ser	Pro	Gly	Thr	Ser	Thr	Val His Leu
	8165					8170					8175	
Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu	Pro	Gly	His	Thr Ala Pro
	8180					8185					8190	



Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn  
 8195 8200 8205  
 Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 8210 8215 8220  
 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe  
 8225 8230 8235  
 Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr  
 8240 8245 8250  
 Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala  
 8255 8260 8265  
 Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg  
 8270 8275 8280  
 Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa  
 8285 8290 8295  
 Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn  
 8300 8305 8310  
 Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly  
 8315 8320 8325  
 Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa  
 8330 8335 8340  
 Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu  
 8345 8350 8355  
 Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa  
 8360 8365 8370  
 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly  
 8375 8380 8385  
 Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr  
 8390 8395 8400  
 Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala  
 8405 8410 8415  
 Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa  
 8420 8425 8430

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Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa
	8435					8440					8445			
Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg
	8450					8455					8460			
Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Thr	Ser	Val	Pro
	8465					8470					8475			
Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser
	8480					8485					8490			
Gly	Thr	Pro	Ser	Ser	Leu	Pro	Gly	His	Thr	Ala	Pro	Val	Pro	Leu
	8495					8500					8505			
Leu	Ile	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr
	8510					8515					8520			
Glu	Glu	Asp	Met	His	Arg	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
	8525					8530					8535			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Ser	Pro	Ile	Phe	Lys	Asn	Ser
	8540					8545					8550			
Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Ser	Leu	Arg
	8555					8560					8565			
Pro	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly	Met	Asp	Ala	Val	Cys	Leu
	8570					8575					8580			
Tyr	His	Pro	Asn	Pro	Lys	Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu
	8585					8590					8595			
Tyr	Cys	Glu	Leu	Ser	Gln	Leu	Thr	His	Asn	Ile	Thr	Glu	Leu	Gly
	8600					8605					8610			
Pro	Tyr	Ser	Leu	Asp	Arg	Asp	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr
	8615					8620					8625			
His	Gln	Asn	Ser	Val	Pro	Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr
	8630					8635					8640			
Val	Tyr	Trp	Ala	Thr	Thr	Gly	Thr	Pro	Ser	Ser	Phe	Pro	Gly	His
	8645					8650					8655			
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr
	8660					8665					8670			

Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser  
 8675 8680 8685  
 Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa  
 8690 8695 8700  
 Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys  
 8705 8710 8715  
 Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa  
 8720 8725 8730  
 Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly  
 8735 8740 8745  
 Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa  
 8750 8755 8760  
 Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu  
 8765 8770 8775  
 Tyr Val Asn Gly Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser  
 8780 8785 8790  
 Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro  
 8795 8800 8805  
 Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro  
 8810 8815 8820  
 Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp  
 8825 8830 8835  
 Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val  
 8840 8845 8850  
 Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly  
 8855 8860 8865  
 Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys  
 8870 8875 8880  
 Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val  
 8885 8890 8895  
 Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu

8900						8905						8910
Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro Tyr Xaa
8915						8920					8925	
Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Xaa	Xaa Xaa Xaa
8930						8935					8940	
Xaa	Xaa	Xaa	Xaa	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Xaa	Val Xaa Leu
8945						8950					8955	
Xaa	Thr	Ser	Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr Xaa Xaa
8960						8965					8970	
Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile Thr Asn
8975						8980					8985	
Leu	Xaa	Tyr	Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser	Arg Lys Phe
8990						8995					9000	
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro Xaa Phe
9005						9010					9015	
Lys	Xaa	Thr	Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg Leu Thr
9020						9025					9030	
Leu	Leu	Arg	Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala	Thr	Xaa	Val Asp Xaa
9035						9040					9045	
Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Asp	Pro	Xaa	Xaa	Pro	Gly	Leu Asp Arg
9050						9055					9060	
Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa Ile Xaa
9065						9070					9075	
Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu	Tyr Val Asn
9080						9085					9090	
Gly	Phe	Thr	His	Arg	Ser	Phe	Gly	Leu	Thr	Thr	Ser	Thr Pro Trp
9095						9100					9105	
Thr	Ser	Thr	Val	Asp	Leu	Gly	Thr	Ser	Gly	Thr	Pro	Ser Pro Val
9110						9115					9120	
Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro	Phe Thr Leu
9125						9130					9135	

Asn	Phe	Thr	Ile	Thr	Asn	Leu	Gln	Tyr	Glu	Glu	Asp	Met	His	Arg
9140						9145					9150			
Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly
9155						9160					9165			
Leu	Leu	Thr	Pro	Leu	Phe	Arg	Asn	Thr	Ser	Val	Ser	Ser	Leu	Tyr
9170						9175					9180			
Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asp	Gly	Ala
9185						9190					9195			
Ala	Thr	Arg	Val	Asp	Ala	Val	Cys	Thr	His	Arg	Pro	Asp	Pro	Lys
9200						9205					9210			
Ser	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa
9215						9220					9225			
Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg
9230						9235					9240			
Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
9245						9250					9255			
Xaa	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Xaa	Val	Xaa	Leu	Xaa	Thr	Ser
9260						9265					9270			
Gly	Thr	Pro	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu
9275						9280					9285			
Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr
9290						9295					9300			
Glu	Glu	Xaa	Met	Xaa	Xaa	Pro	Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr
9305						9310					9315			
Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro	Xaa	Phe	Lys	Xaa	Thr
9320						9325					9330			
Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg
9335						9340					9345			
Xaa	Glu	Lys	Xaa	Xaa	Ala	Ala	Thr	Xaa	Val	Asp	Xaa	Xaa	Cys	Xaa
9350						9355					9360			
Xaa	Xaa	Xaa	Asp	Pro	Xaa	Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu
9365						9370					9375			

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Tyr	Trp	Glu	Leu	Ser	Xaa	Leu	Thr	Xaa	Xaa	Ile	Xaa	Glu	Leu	Gly
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Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr
9395						9400					9405			
His	Trp	Ile	Pro	Val	Pro	Thr	Ser	Ser	Thr	Pro	Gly	Thr	Ser	Thr
9410						9415					9420			
Val	Asp	Leu	Gly	Ser	Gly	Thr	Pro	Ser	Ser	Leu	Pro	Ser	Pro	Thr
9425						9430					9435			
Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro	Phe	Thr	Leu	Asn	Phe	Thr	Ile
9440						9445					9450			
Thr	Asn	Leu	Gln	Tyr	Gly	Glu	Asp	Met	Gly	His	Pro	Gly	Ser	Arg
9455						9460					9465			
Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Gly	Pro
9470						9475					9480			
Ile	Phe	Lys	Asn	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg
9485						9490					9495			
Leu	Thr	Ser	Leu	Arg	Ser	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly	Val
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Asp	Ala	Ile	Cys	Ile	His	His	Leu	Asp	Pro	Lys	Ser	Pro	Gly	Leu
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9530						9535					9540			
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Xaa	Xaa	Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe
9590						9595					9600			
Thr	Leu	Asn	Phe	Thr	Ile	Thr	Asn	Leu	Xaa	Tyr	Glu	Glu	Xaa	Met
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 9680 9685 9690  
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 Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Phe  
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 Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly  
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 Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly  
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9845

9850

9855

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Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr  
 9875 9880 9885

Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro  
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Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu  
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Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro
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Pro	Gly 10355	Thr	Ser	Ile	Val	Asn 10360	Leu	Gly	Thr	Ser	Gly 10365	Ile	Pro	Pro
Ser	Leu 10370	Pro	Glu	Thr	Thr	Xaa 10375	Xaa	Xaa	Pro	Leu	Leu 10380	Xaa	Pro	Phe
Thr	Leu 10385	Asn	Phe	Thr	Ile	Thr 10390	Asn	Leu	Xaa	Tyr	Glu 10395	Glu	Xaa	Met
Xaa	Xaa 10400	Pro	Gly	Ser	Arg	Lys 10405	Phe	Asn	Thr	Thr	Glu 10410	Arg	Val	Leu
Gln	Gly 10415	Leu	Leu	Lys	Pro	Leu 10420	Phe	Lys	Ser	Thr	Ser 10425	Val	Gly	Pro
Leu	Tyr 10430	Ser	Gly	Cys	Arg	Leu 10435	Thr	Leu	Leu	Arg	Pro 10440	Glu	Lys	Asp
Gly	Val 10445	Ala	Thr	Arg	Val	Asp 10450	Ala	Ile	Cys	Thr	His 10455	Arg	Pro	Asp
Pro	Lys 10460	Ile	Pro	Gly	Leu	Asp 10465	Arg	Gln	Gln	Leu	Tyr 10470	Trp	Glu	Leu
Ser	Gln 10475	Leu	Thr	His	Ser	Ile 10480	Thr	Glu	Leu	Gly	Pro 10485	Tyr	Thr	Leu
Asp	Arg 10490	Asp	Ser	Leu	Tyr	Val 10495	Asn	Gly	Phe	Thr	Gln 10500	Arg	Ser	Ser
Val	Pro 10505	Thr	Thr	Ser	Thr	Pro 10510	Gly	Thr	Phe	Thr	Val 10515	Gln	Pro	Glu
Thr	Ser 10520	Glu	Thr	Pro	Ser	Ser 10525	Leu	Pro	Gly	Pro	Thr 10530	Ala	Thr	Gly
Pro	Val 10535	Leu	Leu	Pro	Phe	Thr 10540	Leu	Asn	Phe	Thr	Ile 10545	Thr	Asn	Leu
Gln	Tyr 10550	Glu	Glu	Asp	Met	His 10555	Arg	Pro	Gly	Ser	Arg 10560	Lys	Phe	Asn

Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Met	Pro	Leu	Phe	Lys
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Leu	Arg	Pro	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Arg	Val	Asp	Ala	Val
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Cys	Thr	His	Arg	Pro	Asp	Pro	Lys	Ser	Pro	Gly	Leu	Asp	Arg	Glu
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Phe	Thr	His	Gln	Ser	Ser	Met	Thr	Thr	Thr	Arg	Thr	Pro	Asp	Thr
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Gly	Pro	Thr	Thr	Ala	Ser	Pro	Leu	Leu	Val	Leu	Phe	Thr	Ile	Asn
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Gly	Ser	Arg	Lys	Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu
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Leu	Arg	Pro	Val	Phe	Lys	Asn	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser
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Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Lys	Lys	Asp	Gly	Ala	Ala
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Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu	Leu	Ser	Gln	Leu
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Thr	His	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Gln	Asp	Arg	Asp

10790

Ser	Leu	Tyr	Asn	Val	Gly	Phe	Thr	Gln	Arg	Ser	Ser	Val	Pro	Thr
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Arg	Val	Leu	Gln	Gly	Leu	Leu	Arg	Ser	Leu	Phe	Lys	Ser	Thr	Ser
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Tyr	Ala	Leu	Asp	Asn	Asp	Ser	Leu	Phe	Val	Asn	Gly	Phe	Thr	His
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Tyr	Leu	Gly	Ala	Ser	Lys	Thr	Pro	Ala	Ser	Ile	Phe	Gly	Pro	Ser
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Phe	Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Arg	Pro	Leu
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Gln	Arg	Ser	Ser	Leu	Gly	Ala	Arg	Tyr	Thr	Gly	Cys	Arg	Val	Ile
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Ala	Leu	Arg	Ser	Val	Lys	Asn	Gly	Ala	Glu	Thr	Arg	Val	Asp	Leu
11195						11200					11205			
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Arg	Leu	Gly	Pro	Tyr	Ser	Leu	Asp	Lys	Asp	Ser	Leu	Tyr	Leu	Asn
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Gly	Tyr	Asn	Glu	Pro	Gly	Leu	Asp	Glu	Pro	Pro	Thr	Thr	Pro	Lys
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Pro	Ala	Thr	Thr	Phe	Leu	Pro	Pro	Leu	Ser	Glu	Ala	Thr	Thr	Ala
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Gln	Lys	Ser	Ser	Met	Gly	Pro	Phe	Tyr	Leu	Gly	Cys	Gln	Leu	Ile
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Ser	Leu	Arg	Pro	Glu	Lys	Asp	Gly	Ala	Ala	Thr	Gly	Val	Asp	Thr
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Thr	Cys	Thr	Tyr	His	Pro	Asp	Pro	Val	Gly	Pro	Gly	Leu	Asp	Ile
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Gln	Gln	Leu	Tyr	Trp	Glu	Leu	Ser	Gln	Leu	Thr	His	Gly	Val	Thr
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Gln	Leu	Gly	Phe	Tyr	Val	Leu	Asp	Arg	Asp	Ser	Leu	Phe	Ile	Asn
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Gly	Tyr	Ala	Pro	Gln	Asn	Leu	Ser	Ile	Arg	Gly	Glu	Tyr	Gln	Ile
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Asn	Phe	His	Ile	Val	Asn	Trp	Asn	Leu	Ser	Asn	Pro	Asp	Pro	Thr
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Cys	Leu	Val	Thr	Asn	Leu	Thr	Met	Asp	Ser	Val	Leu	Val	Thr	Val
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Lys	Ala	Leu	Phe	Ser	Ser	Asn	Leu	Asp	Pro	Ser	Leu	Val	Glu	Gln
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Val	Phe	Leu	Asp	Lys	Thr	Leu	Asn	Ala	Ser	Phe	His	Trp	Leu	Gly
	11495					11500					11505			

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 Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala  
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 His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala  
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 Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met  
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 50 55 60  
 Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu  
 65 70 75 80  
 Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr  
 85 90 95  
 Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr  
 100 105 110  
 Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn  
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 170

<211> 42

<212> PRT

<213> Homo sapiens

<400> 170

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 171

<211> 42

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu  
35 40

<210> 172  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 172

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu  
35 40

<210> 173  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 173

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 174  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 174

Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35

<210> 175  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 175

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 176  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 176

Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu  
35 40

<210> 177  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 178  
<211> 42  
<212> PRT

<213> Homo sapiens

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 181

<211> 42

<212> PRT

<213> Homo sapiens

<400> 181

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 182  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 182

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 183  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 183

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
35 40

<210> 184  
<211> 42  
<212> PRT  
<213> Homo sapiens

<400> 184

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr  
1 5 10 15

Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe  
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

<210> 185  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens

<400> 185

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr  
 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

<210> 186  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens

<400> 186

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr  
 1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

<210> 187  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens

<400> 187

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr  
 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

<210> 188  
 <211> 42

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 188

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr  
 1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

&lt;210&gt; 189

&lt;211&gt; 42

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 189

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr  
 1 5 10 15

Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

&lt;210&gt; 190

&lt;211&gt; 42

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 190

Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr  
 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe  
 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40

&lt;210&gt; 191

&lt;211&gt; 42

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 191

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr  
 Page 260



1 5 10 15  
 Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe  
 20 25 30  
 Asn Thr Thr Glu Arg Val Leu Gln Ser Leu  
 35 40  
 <210> 192  
 <211> 41  
 <212> PRT  
 <213> Homo sapiens  
 <400> 192  
 Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr  
 1 5 10 15  
 Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn  
 20 25 30  
 Thr Thr Glu Arg Val Leu Gln Gly Leu  
 35 40  
 <210> 193  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens  
 <400> 193  
 Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn  
 1 5 10 15  
 Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe  
 20 25 30  
 Asn Ile Thr Asp Asn Val Met Lys His Leu  
 35 40  
 <210> 194  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens  
 <400> 194  
 Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser  
 1 5 10 15  
 Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn  
 20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu  
35 40

<210> 195  
<211> 23  
<212> PRT  
<213> Homo sapiens  
<400> 195

Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Ala Ser Leu Arg  
20

<210> 196  
<211> 23  
<212> PRT  
<213> Homo sapiens  
<400> 196

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 197  
<211> 23  
<212> PRT  
<213> Homo sapiens  
<400> 197

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 198  
<211> 23  
<212> PRT  
<213> Homo sapiens  
<400> 198

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 199  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 199

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 200  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 200

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
 20

<210> 201  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 201

Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
 20

<210> 202  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 202

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 203

<211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 203

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 204  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 204

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
 20

<210> 205  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 205

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Ile Ser Leu Arg  
 20

<210> 206  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 206

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
 20

<210> 207  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
20

<210> 208

<211> 23

<212> PRT

<213> Homo sapiens

<400> 208

Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 209

<211> 23

<212> PRT

<213> Homo sapiens

<400> 209

Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly  
1 5 10 15

Cys Arg Val Ile Ala Leu Arg  
20

<210> 210

<211> 23

<212> PRT

<213> Homo sapiens

<400> 210

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 211

<211> 23

<212> PRT

<213> Homo sapiens

<400> 211

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Ser Arg Leu Thr Leu Leu Arg  
 20

<210> 212  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 212

Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 213  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 213

Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 214  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 214

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 215  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 215

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 216  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 216

Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 217  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 217

Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg  
20

<210> 218  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 218

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 219  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 219

Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly  
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
20

<210> 220  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 220

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly  
 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg  
 20

<210> 221  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 221

Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys  
 1 5 10 15

Gln Leu Ile Ser Leu Arg  
 20

<210> 222  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 222

Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His  
 1 5 10 15

Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
 20 25 30

Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 223  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 223

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
 Page 268



1 5 10 15  
 Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp  
 20 25 30  
 Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr  
 35 40 45  
 Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 224  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 224

Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 225  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 225

Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His  
 1 5 10 15

His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala  
 35 40 45

Leu Asp Asn Asp Ser Leu Phe Val Asn Gly  
 50 55

<210> 226  
 <211> 58

<212> PRT  
<213> Homo sapiens

<400> 226

Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His  
1 5 10 15

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu  
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
50 55

<210> 227  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 227

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr  
1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser  
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
50 55

<210> 228  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr  
1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys  
20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser  
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
 50 55

<210> 229  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 229

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr  
 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Val Ser Leu Tyr Val Asn Gly  
 50 55

<210> 230  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 230

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr  
 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
 35 40 45

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly  
 50 55

<210> 231  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 231

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr  
 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
35 40 45

Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly  
50 55

<210> 232  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 232

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His  
1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
20 25 30

Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg His Ser Leu Tyr Val Asn Gly  
50 55

<210> 233  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 233

Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His  
1 5 10 15

Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
50 55

<210> 234  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 234

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His  
 1 5 10 15

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 235  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 235

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 236  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 236

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp  
 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
 50 55

<210> 237

<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 237

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
1 5 10 15

Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
50 55

<210> 238  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 238

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His  
1 5 10 15

His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
20 25 30

Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
50 55

<210> 239  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 239

Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His  
1 5 10 15

Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu  
35 40 45

Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly  
50 55

<210> 240  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 240

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His  
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
50 55

<210> 241  
<211> 58  
<212> PRT  
<213> Homo sapiens

<400> 241

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His  
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp  
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly  
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<400> 242

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu  
1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
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<210> 243  
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<400> 243

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu  
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Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
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<400> 244

Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His  
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Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
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<400> 245



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Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly  
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<400> 246

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His  
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Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly  
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<400> 247

Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His  
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His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr  
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Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly  
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Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr  
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Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His  
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Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser  
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Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly  
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<210> 249  
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<400> 249

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr  
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His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp  
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Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val  
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Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile  
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Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr  
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Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr  
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Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser  
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Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr  
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Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr  
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Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val  
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&lt;211&gt; 12

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&lt;213&gt; Homo sapiens

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Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr  
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&lt;211&gt; 12

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&lt;213&gt; Homo sapiens

&lt;400&gt; 277

Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr  
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&lt;211&gt; 21

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&lt;213&gt; Homo sapiens

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Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser  
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Ser Pro Ser Pro Thr  
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&lt;212&gt; PRT

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Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser  
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Leu Pro Ser Pro Thr



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Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr  
50 55 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu  
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Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile  
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85

90

95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu  
 100 105 110  
 Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr  
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 Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu  
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Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu  
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Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn  
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Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu  
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725 730 735

Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr  
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Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr  
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Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser  
785 790 795 800

Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu  
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1085

1090

1095

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Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705	Lys	Asp	Ser	Ser	Ala 1710	Met	Ala	Val
Asp	Ala 1715	Ile	Cys	Thr	His	Arg 1720	Pro	Asp	Pro	Glu	Asp 1725	Leu	Gly	Leu
Asp	Arg 1730	Glu	Arg	Leu	Tyr	Trp 1735	Glu	Leu	Ser	Asn	Leu 1740	Thr	Asn	Gly
Ile	Gln 1745	Glu	Leu	Gly	Pro	Tyr 1750	Thr	Leu	Asp	Arg	Asn 1755	Ser	Leu	Tyr
Val	Asn 1760	Gly	Phe	Thr	His	Arg 1765	Ser	Ser	Met	Pro	Thr 1770	Thr	Ser	Thr
Pro	Gly 1775	Thr	Ser	Thr	Val	Asp 1780	Val	Gly	Thr	Ser	Gly 1785	Thr	Pro	Ser
Ser	Ser 1790	Pro	Ser	Pro	Thr									

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Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn  
 35 40 45

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn  
 50 55 60

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His  
 65 70 75 80

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser  
 85 90 95

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser  
 100 105 110

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg  
 115 120 125

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys  
 130 135 140

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn  
 145 150 155 160

Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala  
 165 170 175

Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr  
 180 185 190

Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val  
 195 200 205

Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn  
 210 215 220

Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu  
225 230 235 240

Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg  
245 250 255

Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly  
260 265 270

Tyr Tyr Gln Ser His Leu Asp Leu Glu Asp Leu Gln  
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 ggtctgctta gtcccatatt caagaacacc agtggtggcc ctctgtactc tggctgcaga 180  
 ctgacctctc tcaggtctga gaaggatgga gcagccactg gagtggatgc catctgcac 240  
 catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc 300  
 cgactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360  
 gtcaatgggtt tcacccatcg gacctctgtg cccaccacca gactcctgg gacctccaca 420  
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys  
35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu  
50 55 60

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile  
65 70 75 80

His His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr  
85 90 95

Trp Glu Leu Ser Arg Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr  
100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr  
115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly  
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Thr Ser Gly Thr Pro Phe Ser Leu Pro Ser Pro Ala  
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